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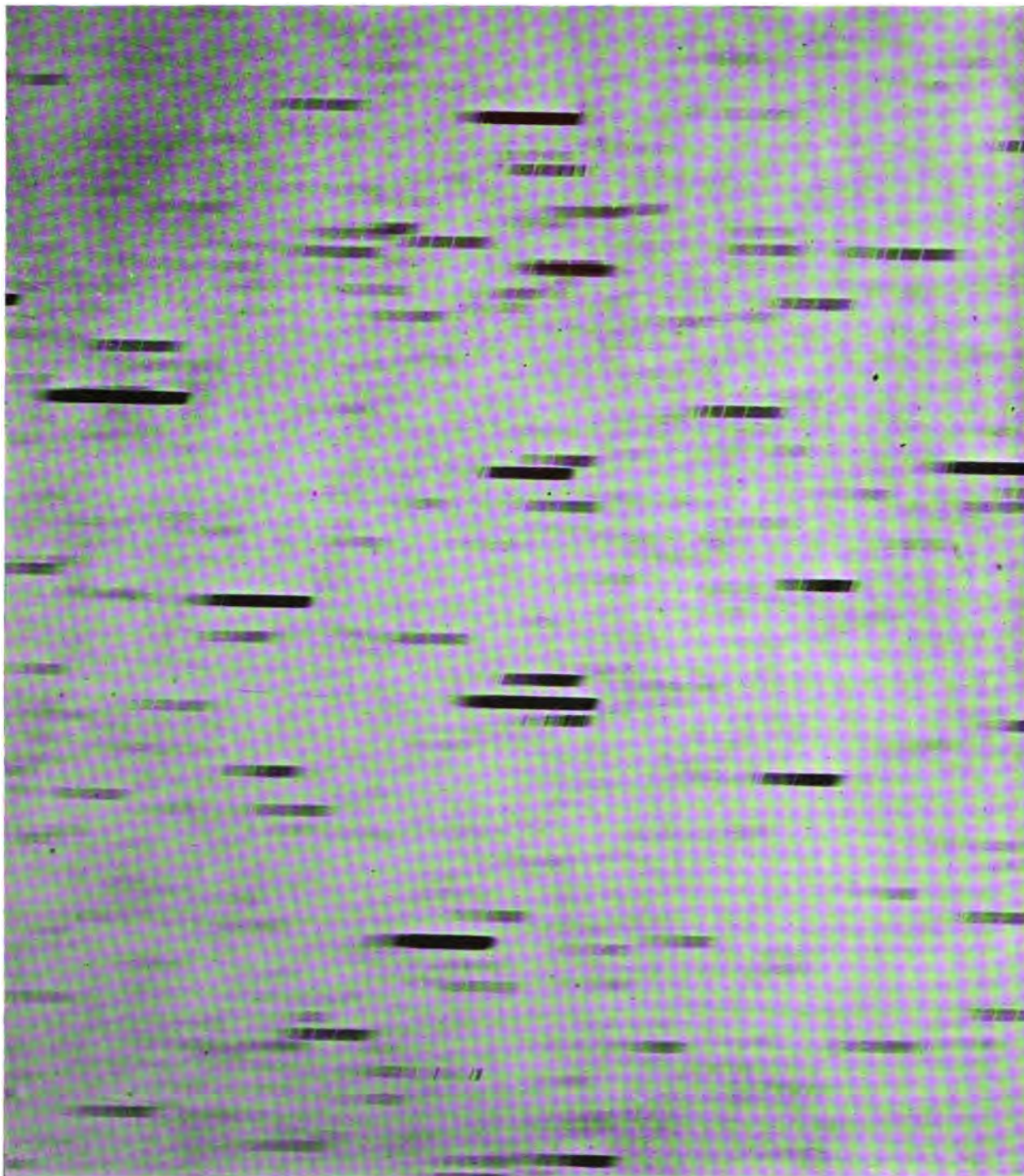






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PHOTOGRAPH WITH OBJECTIVE PRISM.

ANNALS  
OF  
THE ASTRONOMICAL OBSERVATORY OF HARVARD COLLEGE  
  
VOLUME 96  
  
THE HENRY DRAPER CATALOGUE  
  
15<sup>h</sup> AND 16<sup>h</sup>

BY  
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122

## PREFACE.

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THE photograph for the frontispiece of the present Volume, the sixth of the Henry Draper Catalogue, has been selected as typical of those used by Miss Cannon in the classification of the spectra. The illustration is an enlargement to double the scale from I 37392, made with the eight-inch Draper Telescope, having an exposure of 80 minutes on the region whose centre is R. A.  $19^h 30^m$ , Dec.  $+50^\circ$ . The original negative is eight by ten inches in size, so that the illustration shows less than one fourth of the negative. Owing to the length of the exposure necessary to show the lines of the fainter stars, the spectra of a few bright stars are over-exposed. The spectra of all such stars were classified earlier on plates made with instruments of greater size. The width of the spectra was obtained by changing the rate of the driving clock, so that the spectrum of each star formed by the objective prism drifted across the plate by a determined amount. When the region photographed lies on, or near, the meridian, and the polar adjustment of the instrument is perfect, the spectral lines will, in general, be perpendicular to the length of the spectrum. The lines may also be affected by flexure of the telescope. In the present case, the spectral lines are considerably inclined, caused chiefly by differential refraction, since the region was about four hours west of the meridian at the end of the exposure. This effect might have been avoided by following the exposure visually and guiding the instrument in declination. The inclination of the lines does not interfere with the classification.

A large number of the spectra shown in the illustration are of Classes A and K. The variable star R Cygni,  $+49^\circ 3064$ , Class Pec., is shown at 90, 73 (reckoned in millimetres from the lower left hand corner). The emission lines of hydrogen,  $H\beta$ ,  $H\gamma$ , and  $H\delta$  are seen as black lines, since the reproduction is in the form of a negative. The bright star just above is  $\theta$  Cygni, magnitude 4.64. At 70, 17 is the spectrum of  $+50^\circ 2869$ , a gaseous nebula, Class Pd, which contains besides the bright hydrogen lines, the chief nebular lines at 4959 and 5007. At 88, 160 is  $+49^\circ 2999$ , whose spectrum is of Class Mb.

S. I. BAILEY,

*Acting Director of the Observatory of Harvard College.*

CAMBRIDGE, U.S., *June 28, 1921.*



## THE HENRY DRAPER CATALOGUE.

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THE Henry Draper Catalogue originated in the attempt to collect in a single catalogue a description of all the stellar spectra which could be classified on the photographs of the Henry Draper Memorial. It was shown in May, 1885, that by placing a prism in front of the objective of a photographic telescope, excellent spectra could be obtained of all the stars of sufficient brightness in the field of the instrument. The immediate effect was that the photographic image of each star, instead of appearing as a point, was spread into a line, the rays of different wave lengths being diverted by the prism to different points upon the plate. These lines were then broadened into bands by giving a rate to the driving clock differing slightly from sidereal time. The principal lines in the spectra appear in these bands. The advantages of this method are, first, that the spectra of several hundred stars can be obtained on a single photograph, while with a slit spectroscope only one star can be photographed at a time. Secondly, the loss of light is so small that, even if stars are faint, satisfactory spectra can be obtained. Thirdly, the spectra can be identified with certainty, since they occupy the same relative positions on the photographs as stars on a chart plate, or map.

The classification of the spectra required for the Henry Draper Catalogue was begun by Miss Annie J. Cannon on October 2, 1911, and practically completed September 30, 1915. Some additional spectra were taken from later plates, where faint stars had not been classified previously. The total number of spectra classified is 242,093, relating to about 222,000 stars. The greater portion of the northern stars were classified from 709 plates taken with the 8-inch Draper Telescope, mounted at Cambridge. In like manner, 1,409 plates of the southern stars were used, taken with the Bache Telescope, mounted at Arequipa, Peru. Each of these instruments has, for an objective, an 8-inch Voigtländer Portrait Lens, corrected by Alvan Clark and Sons. Two prisms having angles of  $13^{\circ}$  and  $5^{\circ}$  were originally used with each instrument. They formed spectra having a dispersion such that for the 8-inch Draper Telescope the intervals between the lines  $H\beta$  and  $H\epsilon$  were 5.61 and 1.60 mm., respectively.

The corresponding intervals for the Bache Telescope were 5.80 and 2.23 mm. It appeared that the definition was better with the prism giving the larger dispersion attached to the 8-inch Draper Telescope, and with the prism giving the smaller dispersion attached to the Bache Telescope. For this reason, the spectra of much fainter stars could be classified from the photographs taken in Arequipa, than from those taken in Cambridge. Exceptions were made in the case of southern stars which are too dense on plates of small dispersion, and of northern stars so near together that their spectra are superposed on plates of long dispersion. Some northern stars between  $0^{\circ}$  and  $+10^{\circ}$  in declination were also classified from plates of short dispersion taken in Arequipa.

In November, 1900, two prisms, having nearly equal angles of about  $6^{\circ}$ , were attached to the 8-inch Draper Telescope. They were mounted so that they could be rotated by any desired amount, which was measured by means of a graduated circle. When placed in opposite directions they nearly neutralized each other, while, when turned in the same direction, the dispersion was double that of one of the prisms. The angles adopted were such that the dispersions were the same as those previously employed, 5.61 and 1.60 mm.

A number of photographs showing fainter stars were taken with the 16-inch Metcalf Telescope. The regions selected were the centres of the Harvard Standard Regions described in H.A. 14, 477, and a few others, such as the Pleiades, Praesepe, etc. The distance between the lines  $H\beta$  and  $H\epsilon$  was here 3.90 mm.

On all of the plates described above, the spectra of the bright stars were dense, so that they could not be classified. Accordingly, spectra taken with a larger dispersion were used. For stars north of declination  $-20^{\circ}$ , from one to four prisms were attached to the 11-inch Draper Telescope. The interval between the lines  $H\beta$  and  $H\epsilon$  varied from 19.63 to 80.50 mm. These spectra have already been described in H.A. 28, Part 1, but as a different system of classification was there employed by Miss Maury, the spectra were again classified by Miss Cannon. This work was extended to stars of the fifth magnitude, and a few that were fainter, by means of H.A. 56, No. 4. For the southern stars, brighter than the sixth magnitude, the spectra are taken from H.A. 28, Part 2, and H.A. 56, No. 5. From one to three prisms were employed, and the interval from  $H\beta$  to  $H\epsilon$  varied from 21.57 to 72.15 mm.

From August, 1885, to November, 1894, Seed 26+, from December, 1894, to December, 1899, Cramer Crown, from January, 1900, to May, 1911, Seed G. E. 27, and since June, 1911, Hammer Special plates were generally used.

Substantially the same classification has been used in all the publications of the Henry Draper Memorial, except in the case of H.A. 28, Part 1. Slight changes have

been introduced from time to time as experience showed that the classification could be improved. For instance, Class H, used in H.A. 27, has been abandoned, since it has been found that it is identical with Class K, when photographed under favorable conditions. The letters were originally applied empirically, a separate letter for each class of spectrum which appeared to be different. Later, it was found that nearly all the spectra fell into the classes B, A, F, G, K, and M, which thus formed a continuous sequence. Intermediate spectra are indicated by numbers representing tenths of the interval. Thus, A<sub>5</sub> represents a spectrum midway between A<sub>0</sub> and F<sub>0</sub>. The numeral is omitted when a precise classification cannot be made. Class B was found to precede A, but the letters could not be reversed without causing confusion. Class P, designating gaseous nebulae, and Class O, stars of the fifth type, appear to precede Class B. The unanimous adoption of this system by an International Committee appointed by the Solar Union has secured its universal acceptance. The countries represented on this Committee were Canada, England, France, Germany, Holland, and the United States.

The designations of the lines used in describing the spectra, are generally the same as in the previous volumes. An exception is made, however, in the case of the series of lines first found in the spectrum of  $\zeta$  Puppis. Professor Pickering showed these lines to be so closely represented by a modification of Balmer's formula, that he assumed them to be due to "hydrogen under conditions of temperature or pressure yet unknown," as stated in H. C. 16, January 12, 1897. The lines were therefore called "additional hydrogen lines," with the specific designations as follows: line 5411, H $\beta'$ ; 4541.9, H $\gamma'$ ; 4200.3, H $\delta'$ ; 4026.0, H $\epsilon'$ ; 3924.0, H $\zeta'$ ; 3860.8, H $\eta'$ ; 3815.7, H $\theta'$ ; and 3783.4,  $\iota'$ . Recent investigators, however, find by experiments in the laboratory that these lines are probably due to helium. They are now commonly called  $\zeta$  Puppis lines and this designation is accordingly adopted here.

The classification and designation of peculiar spectra present great difficulties. Some spectra are so peculiar that they can not be assigned to any known class, and are marked Pec. in Table I. Others show deviations of various kinds and degrees, and yet resemble the typical spectra in the most essential characteristics. In the latter case, the class which the peculiar spectrum resembles most nearly is given, followed by the letter p. A description of the deviation from the typical spectrum will then be found in the Remarks following Table I. The deviations may occur in several ways, as has already been discussed in H.A. 28, 143. First, in the width of the lines. The difference in the width of the lines, especially whether the lines are diffuse or sharp, was early recognized. On September 8, 1887, the spectra of  $\alpha$  Cygni, in which the lines are very sharp, and of  $\alpha$  Aquilae, in which they are diffuse, were



photographed on the same plate, to prove that the difference was due to the star and not to the instrument, or condition of the air. Narrow lines will appear hazy, or even double, if the focus is poor, or the air unsteady, and a slit spectroscope is much to be preferred to an objective prism for determining this condition. Whenever the width of the lines appeared to be abnormal, it is noted in the Remarks. With the larger dispersion in H.A. 28 and 56, the deviation from the normal in the width of the lines was always noted, when certainly seen. When the lines are broad, the spectra are designated in H.A. 28, 1, by the letter "b," and in H.A. 28, 2, by Remark 18, when narrow, by the letter "c" and Remark 40, respectively. For convenience of reference, a list of bright stars in whose spectra the lines are narrow, was given in H.A. 56, 162.

Secondly, deviations may occur in the intensity of certain lines in stellar spectra. Numerous spectra in Classes A<sub>0</sub> to A<sub>5</sub>, show the double silicon line, 4128.1, 4131.1 to be of increased intensity, and in other spectra the strontium lines 4077.9, 4215.7 are very strong. Lists of a few of these peculiar spectra are given in H.A. 56, 113, 161. The great intensity of these strontium lines in spectra of various classes, such as  $\theta^1$  Microscopii of Class A<sub>2</sub>,  $\xi$  Phoenicis of Class F<sub>0</sub>, and  $\zeta$  Capricorni of Class G<sub>5</sub>, is of interest in connection with the relation of these lines to the absolute brightness of the stars, and to the possibility of distinguishing between the so-called "giants" and "dwarfs." Numerous other lines, including those of hydrogen, have also been found to be of abnormal intensity in certain spectra. In the case of C.D.M.  $-27^\circ 178$ , R. A.  $0^h 31^m.7$ , Dec.  $-27^\circ 50'$ , the continuous spectrum is Class G<sub>5</sub>, but the hydrogen lines are as strong as in Class F<sub>5</sub>. In some spectra of Class K<sub>5</sub>, or Ma, such as B.D.  $+50^\circ 1725$ , R. A.  $10^h 5^m.3$ , Dec.  $+49^\circ 58'$ , and C.D.M.  $-39^\circ 14192$ , R. A.  $21^h 11^m.5$ , Dec.  $-39^\circ 15'$ , several lines, including 4435 and 4455, are abnormally intense.

A third peculiarity in stellar spectra is the presence of bright, or emission, lines. At least 750 spectra are known to have bright lines. The gaseous nebulae, Class P, the Fifth Type, Class O, the P Cygni Type, and the Novae are discussed in H.A. 76, No. 3. The presence of bright lines in spectra of Class M, characteristic of long period variables, is indicated by the combination, Md. No symbol has ever been adopted to show the presence of bright lines in spectra of Class B, although the use of a suffix, such as " $\beta$ " or "h," has been suggested. It seemed best, however, to continue to designate these spectra by placing the letter "p" after the class, until some definite action should be taken by the Committee on Stellar Classification. These spectra may easily be found by means of the Remarks following Table I.

The other two deviations consist in a periodic doubling of the lines in the spectrum, also indicated by the letter "p," and in the existence of the lines of two

classes of spectra completely superposed, designated composite spectra. A large part of the bright stars having composite spectra are known to be double, either visually or spectroscopically. It is assumed that this is always the case, and two lines are accordingly given to such stars.

Miss Cannon has described the classification in full in H.A. 28, 146, and more concisely in H.A. 56, 66. A classification of the gaseous nebulae is given in H.A. 76, 20. For convenience, the classification as used in the present volume is again given below.

Class Pa. Typical nebula, I.C. 418, R. A.  $5^h 22^m.8$ , Dec.  $-12^\circ 46'$ . The double line, 3726, 3729, is more conspicuous than the chief nebular lines, 5007.0 and 4959.0. The hydrogen lines  $H\alpha$ ,  $H\beta$ ,  $H\gamma$ ,  $H\delta$ ,  $H\epsilon$ , and  $H\zeta$  are bright.

Class Pb. Typical nebula, The Great Nebula of Orion. Lines 5007.0 and 4959.0 are more intense than in Class Pa.

Class Pc. Typical nebula, I.C. 4997, R. A.  $20^h 15^m.6$ , Dec.  $+16^\circ 25'$ . Line 4363.4 is the most conspicuous. Novae usually show this line much stronger than 5007.0 when they first become nebulae.

Class Pd. Typical nebulae, N.G.C. 6826, R. A.  $19^h 42^m.1$ , Dec.  $+50^\circ 17'$ , and N.G.C. 6326, R. A.  $17^h 12^m.9$ , Dec.  $-51^\circ 40'$ . The chief nebular line, 5007.0, is the strongest line. The greater number of the gaseous nebulae belong to this and the following class.

Class Pe. Typical nebulae, N.G.C. 7662, R. A.  $23^h 21^m.1$ ,  $+41^\circ 59'$ , and N.G.C. 7009, R. A.  $20^h 58^m.7$ , Dec.  $-11^\circ 46'$ . This class differs from Class Pd in having line 4685.9 present.

Class Pf. Typical nebula, N.G.C. 40, R. A.  $0^h 7^m.6$ , Dec.  $+71^\circ 32'$ . A bright band whose centre is at 4650 is the most conspicuous portion of this spectrum and appears to ally it with spectra of Class O.

Class Oa. Typical stars, B.D.  $+35^\circ 4013$ , R. A.  $20^h 8^m.2$ , Dec.  $+35^\circ 54'$ , and C.P.D.  $-60^\circ 2578$ , R. A.  $11^h 5^m.8$ , Dec.  $-60^\circ 26'$ . A broad bright band, whose centre is at 4650, is the most conspicuous portion of these spectra.  $H\gamma$  and  $H\delta$  are bright, and several other bright bands are seen.

Class Ob. Typical stars, B.D.  $+35^\circ 4001$ , R. A.  $20^h 6^m.5$ , Dec.  $+35^\circ 53'$ , and C.D.M.  $-23^\circ 4553$ , R. A.  $6^h 50^m.0$ , Dec.  $-23^\circ 48'$ . A wide, bright band, whose centre is at the wave length 4686, is the most characteristic feature of these spectra. The hydrogen lines  $H\beta$ ,  $H\gamma$ , and  $H\delta$  are bright, and also those of the  $\zeta$  Puppis series.

Class Oc. Typical stars, B.D.  $+36^\circ 3987$ , R. A.  $20^h 13^m.3$ , Dec.  $+37^\circ 7'$  and C.D.M.  $-41^\circ 10972$ , R. A.  $16^h 45^m.3$ , Dec.  $-41^\circ 41'$ . The bands are narrower than in

Classes Oa and Ob, and two well separated lines are seen at 4686 and 4638, the former being twice as bright as the latter. The hydrogen lines are bright, and also the lines of the  $\zeta$  Puppis series. No dark lines are seen.

Class Od. Typical stars,  $\zeta$  Puppis and  $\lambda$  Cephei. All lines are dark except 4686 and 4638, which are bright. Seven dark lines of the  $\zeta$  Puppis series have been photographed. The helium line, 4471.6, is present but very faint in  $\zeta$  Puppis. Several faint, dark lines between  $H\beta$  and  $H\gamma$  are seen in the spectrum of  $\lambda$  Cephei, but not in that of  $\zeta$  Puppis.

Class Oe. Typical star,  $\sigma$  Canis Majoris, R. A.  $7^h 14^m.5$ , Dec.  $-24^\circ 23'$ . The spectrum resembles that of  $\zeta$  Puppis in having all lines dark except 4686 and 4638. Numerous helium and other dark lines are present. Line 4097.5, sometimes attributed to silicon, and the silicon line, 4089.0 are at their maximum intensity.

Class Oe5. Typical star,  $\tau$  Canis Majoris, R. A.  $7^h 14^m.5$ , Dec.  $-24^\circ 47'$ . All the lines are dark. This spectrum is clearly intermediate between those of Classes Oe and Bo. It resembles those of Class Oe in the presence and intensity of the  $\zeta$  Puppis series, and those of Class Bo with respect to the helium lines. No bright bands are seen, but the strong dark lines 4649.3 and 4685.9 are present.

Class Bo. Typical star,  $\epsilon$  Orionis. The hydrogen lines are 0.3 as intense as in the spectrum of  $\alpha$  Canis Majoris. The  $\zeta$  Puppis series is present, but much fainter than in Class Oe5. Oxygen lines are strong. Line 4649.3 is slightly more intense than the helium lines 4026.3 and 4471.6, which are equally strong. The triplet, 4070.0, 4072.5, and 4076.1, is well marked. Lines 4649.3, 4116.3 and 4089.0, reach their greatest intensity in this class and decrease very rapidly in succeeding classes of spectra.

Class B1. Typical stars,  $\beta$  Canis Majoris and  $\beta$  Centauri. The hydrogen lines are seen from  $H\beta$  to  $H\gamma$ . The  $\zeta$  Puppis series is not distinctly seen. The lines of helium are more intense while the silicon and oxygen lines are fainter than in Class Bo. Line 4471.6 exceeds 4649.3, while 4121.0 exceeds 4116.3, in intensity.

Class B2. Typical stars,  $\gamma$  Orionis and  $\alpha$  Lupi. The lines of helium are at their maximum intensity in this and the following class. Line 4116.3 is not seen, and lines 4089.0 and 4649.3 are faint.

Class B3. Typical stars,  $\pi^4$  Orionis and  $\alpha$  Pavonis. The hydrogen lines are about 0.5 as intense as in  $\alpha$  Canis Majoris. The helium lines, while not stronger than in Class B2, are more prominent, due to the disappearance or extreme faintness of the lines, 4070.0, 4072.5, 4076.1, 4089.0, 4116.3 and 4649.3. Helium lines having the greatest intensities are 3819.8, 4009.4, 4026.3, 4143.9, 4388.1, 4471.6, and 4922.1.

Class B5. Typical stars,  $\eta$  Tauri and  $\phi$  Velorum. These spectra show an advance towards Class A0 in the increased intensity of the calcium line, K, and of the double silicon line 4128.1, 4131.1, which is stronger than the helium line 4121.0, and fainter than 4143.9. Line 4481.3 is 0.7 as intense as 4471.6.

Class B8. Typical stars,  $\beta$  Persei and  $\gamma$  Gruis. The helium lines 4026.3 and 4471.6 are present, together with several lines prominent in the spectra of Class A0. Lines 4471.6 and 4481.3 are approximately equal. Line K is less intense than 4026.3.

Class B9. Typical stars,  $\lambda$  Aquilae and  $\lambda$  Centauri. The spectrum is nearly like that of Class A0, except that 4026.3 is seen and the line K is somewhat fainter than in Class A0.

Class A0. Typical star,  $\alpha$  Canis Majoris. The hydrogen lines are at their maximum intensity, and line K is 0.1 as intense as H $\delta$ , or less. On plates having sufficient dispersion, the calcium line H, at 3968.6, is separated from H $\epsilon$ , 3970.3, and is nearly as intense as line K. Line 4481.3 is the strongest except the hydrogen lines and line K. On a photograph taken with the 13-inch Boyden Telescope, with the dispersion of three prisms, 93 solar lines were measured.

Class A2. Typical stars,  $\delta$  Ursae Majoris and  $\iota$  Centauri. The line K is 0.3 or 0.5 as intense as H $\delta$ . Solar lines are well marked, especially lines 4481.3, 4226.9, and 4233.8. The two latter form a nearly equal pair. No helium lines are seen in this, or any following class.

Class A3. Typical stars,  $\alpha$  Piscis Austrini, and  $\tau^3$  Eridani. The line K is more than 0.5 as intense as the compound line H and H $\epsilon$ , and is 0.8 as intense as H $\delta$ . The metallic lines are more numerous and more intense than in Class A2, while the hydrogen lines are slightly fainter.

Class A5. Typical stars,  $\beta$  Trianguli and  $\alpha$  Pictoris. The line K is 0.9 as intense as the compound line H and H $\epsilon$ , and more intense than H $\delta$ . Line 4481.3 is no longer the most conspicuous among the solar lines. Lines 4299.4, 4300.7, and 4302.7 are well marked.

Class F0. Typical stars,  $\delta$  Geminorum and  $\alpha$  Carinae. The lines of hydrogen are about 0.5 as intense as in  $\alpha$  Canis Majoris. The line K is as strong as the compound line H and H $\epsilon$ , and about 3.0 as intense as H $\delta$ . The lines 4305.6, 4308.0, and 4309.5 and other lines which form the absorption band called G by Fraunhofer, are faint and inconspicuous.

Class F2. Typical star,  $\pi$  Sagittarii. This spectrum resembles Class F0, except that there is more appearance of continuity in the band G, due to increased strength of lines 4305.6 to 4315.2.

Class F5. Typical stars,  $\alpha$  Canis Minoris and  $\rho$  Puppis. The hydrogen lines are 2.0 as intense as in the Sun, and metallic lines are fainter and less numerous. Line 4325.9 is about 0.1 as strong as  $H\gamma$ . On plates with small dispersion, the Fraunhofer band G appears to be nearly continuous from 4299.4 to 4315.2. The compound line 4308.0 and 4309.5 is more intense than 4315.2. Line 4226.9 is well marked among the numerous lines, but is not 0.5 as strong as  $H\gamma$ .

Class F8. Typical stars,  $\beta$  Virginis and  $\alpha$  Fornacis. The spectrum resembles that of the Sun, except that the hydrogen lines are stronger, and a few of the metallic lines are fainter.

Class G0. Typical stars,  $\alpha$  Aurigae and  $\beta$  Hydri. The spectrum closely resembles that of the Sun. The hydrogen lines are no longer conspicuous as a series of lines.  $H\gamma$  is 1.5 as intense as 4325.9, and 3.0 as intense as the adjacent line, 4337.7, when the dispersion is sufficient to show the two lines separately. The lines 4076.8 to 4077.9,  $H\delta$ , and 4226.9 are nearly equal in intensity. The band G is continuous on photographs taken with one or two prisms. The continuous spectrum shows no very marked changes in the distribution of light, from  $H\beta$  to  $H\epsilon$ , although there is a slight gradual decrease from  $H\gamma$  to  $H\epsilon$ . The bands H and K are very conspicuous.

Class G5. Typical stars,  $\kappa$  Geminorum and  $\alpha$  Reticuli. The hydrogen lines are slightly fainter than in Class G0.  $H\gamma$  when combined with 4337.7 is equal to 4325.9; when separated,  $H\gamma$  is fainter than 4325.9. Several spaces appear brighter than adjacent portions, and in the distribution of light there is a decided advance towards Class K0.

Class K0. Typical stars,  $\alpha$  Bootis and  $\alpha$  Phoenicis. The hydrogen lines are fainter than in Class G5 and the light of the continuous spectrum shows a decided decrease from  $H\gamma$  to  $H\epsilon$ .  $H\gamma$  is about 0.5 as strong as 4325.9. Line 4226.9 is 3.0 as intense as in Class G0. Bands H and K reach their greatest intensity. Line 4226.9 is 2.0 as intense as the compound line 4172 and nearly 3.0 as intense as lines 4383 to 4385. The band G, extending from 4299 to 4315, is continuous and is more conspicuous than line 4226.9. Several portions appear brighter than adjacent parts, such as from 4077.9 to  $H\delta$ , 4215.7 to 4226.9, 4470 to 4525, and 4614 to 4648, approximately.

Class K2. Typical stars,  $\beta$  Cancri and  $\nu$  Librae. The spectrum resembles Class K5 in the increased intensities of several lines, as 4226.9, and a general faintness of the continuous portion towards the end of shorter wave length. The band G is still continuous.

Class K5. Typical star,  $\alpha$  Tauri. The bands H and K and line 4226.9 are the most conspicuous absorption lines. The band G is no longer continuous, owing to

the disappearance of several of the fainter lines. The double lines 4383 to 4385 and 4405 to 4408, form a conspicuous pair, of which the one of shorter wave length is somewhat stronger. Faint breaks in the light are seen at the wave lengths 4762, 4954, and 5168, which are the beginning of the absorption bands of Class M. There is also a sudden diminution in light at  $H\beta$ , which is nearly as well marked as the similar change at 4762.

Class Ma. Typical stars,  $\alpha$  Orionis and  $\gamma$  Hydri. The spectrum is banded. The bands extending from 4762 to 4954 and from 5168 to 5445 are well marked. The change in light at  $H\beta$  is much less conspicuous than at 4762. Several bright spaces are seen, such as from 4556 to 4586, and from 4657 to 4668. The lines of the G band are well separated, and line 4315.2 is very faint. Line 4226.9 is the most conspicuous absorption line. The spectrum is faint towards the end of greater wave length, so that bands H and K are generally barely seen.

Class Mb. Typical stars,  $\rho$  Persei and  $\gamma$  Crucis. The edges of the absorption bands, at wave lengths 4762, 4954, 5168, and 5445 are strong and appear somewhat like bright bands. These bands fade gradually towards the edge of shorter wave length. Line 4226.9 is very wide and sometimes appears to be as intense as  $H\delta$  in the spectrum of  $\alpha$  Canis Majoris. Conspicuous bright bands of equal intensity are seen from 4556 to 4586 and from 4614 to 4626. Lines 4299.4, 4300.7, and the compound line 4305.6, 4308.0 and 4309.5 are the only well marked lines remaining of the band G. On isochromatic plates, absorption bands are also seen having edges at the wave lengths 5763, 5816, and 5857, approximately.

Class Mc. Typical stars, W Cygni and RX Aquarii. The continuous spectrum is fainter, and the bright edged bands are stronger, than in Classes Ma and Mb, so that the spectrum appears to be of a fluted character, and on plates of small dispersion many of the dark lines seem to have disappeared.

Class Md. Typical stars,  $\chi$  Cygni and  $\circ$  Ceti. This designation is used for spectra of any division of Class M, in which at least one hydrogen line is bright. The greater portion of the variable stars of long period have this class of spectrum. The spectra differ widely. Either  $H\beta$ ,  $H\gamma$ , or  $H\delta$  may be the strongest bright line, while the underlying spectrum may belong to Class Ma, Mb, or Mc. The subject is further complicated by changes in the relative intensity of the hydrogen lines and probably in the class of spectrum, connected with the variation in the light of the star. As an example, the spectrum of 154615, R Serpentis, may be cited. On April 25, 1912, the bright line,  $H\delta$ , was seven times as intense as  $H\gamma$ , while on April 18, 1914, the two lines were of nearly the same intensity. On the first date, the star was of the ninth magnitude, and the phase was 40 days before maximum. On the

second date, the star was at maximum light, about the sixth magnitude. It is evident that no accurate subdivision of these spectra can be made until observations have been obtained at different points on the light curve. It has therefore seemed best to use the designation Md without numeral, in Table I, and to give additional facts, such as the intensities of the bright hydrogen lines, assuming  $H\gamma$  to be equal to 10, in the Remarks. Several spectra which have hitherto been called Md1 or Md2, in which  $H\beta$  is the strongest bright line, are found to be peculiar and are designated Pec. in Table I. The variable stars R Andromedae, U Cassiopeiae, S Cassiopeiae, R Lyncis, R Canis Minoris, T Geminorum, and R Cygni may be given as examples. These spectra do not show the titanium bands having bright edges at 4762, 4954, and 5168 as in all divisions of Class M, but more nearly resemble the spectrum of  $\pi^1$  Gruis, which may be placed in a subdivision of Class R, assuming some peculiarities.

Class R. This letter was assigned in 1908, to a few spectra which on photographs of small dispersion, resemble those of Class N between  $H\beta$  and  $H\gamma$ , but which contain so much blue light that the spectrum is visible as far as the calcium bands, H and K. A list of spectra assigned at that time to Class R is given in H. C. 145. A careful study of these spectra shows that they may be subdivided into at least three classes, which are described below.

Class Ro. Typical star, S.D.  $-10^\circ 5057$ , ptm. magn. 7.04, R. A.  $19^h 17^m.6$ , Dec.  $-10^\circ 54'$ . The distribution of light resembles that in Class G5 or Ko, and the absorption bands H and K, are well seen. The dark carbon band at 4700 is wide and strong, and the dark band 4395 is about equal to Fraunhofer's G band. Lines 4226.9, 4233.8, 4236.1, and 4239.0 are well marked, and on photographs having small dispersion the appearance at this region is that of a wide, continuous band of absorption. Some spectra have been found during observations for this catalogue, which may be considered to be intermediate between the spectra of Classes K and Ro. One of the best examples is the spectrum of the star S.D.  $-19^\circ 3634$ , ptm. magn. 8.7, R. A.  $13^h 1^m.1$ , Dec.  $-19^\circ 31'$ . This spectrum contains the wide band of absorption near 4227 as in Class Ro, and a fainter band at 4700. Other peculiar spectra of Class K show the same bands in more or less marked degree, as stated in the Remarks.

Class R3. Typical star, B.D.  $+5^\circ 5223$ , ptm. magn. 8.8, R. A.  $23^h 44^m.0$ , Dec.  $+5^\circ 50'$ . The H and K bands of calcium are visible, but they are fainter than in Class Ro, and the continuous spectrum between these bands and  $H\gamma$  is not more than 0.5 as intense as in Class Ro.

Class R5. Typical star, S.D.  $-3^\circ 1685$ , ptm. magn. 7.5, R. A.  $6^h 56^m.1$ , Dec.  $-3^\circ 6'$ . In the region of shorter wave length than 4240, the continuous spectrum is barely visible on plates of normal exposure. When the dispersion is small, the spectrum

appears to consist of three wide bright bands, whose centres are at the approximate wave lengths, 4300, 4400, 4840, and whose intensities are estimated to be 3, 6 and 10, respectively.

Class R8. Typical star, B.D.  $+61^{\circ} 667$ , ptm. magn. 7.92, R.A.  $3^{\text{h}} 57^{\text{m}}.2$ , Dec.  $+61^{\circ} 31'$ . The spectrum is very faint from 4240 to the violet, so that on photographs of long dispersion, it is difficult to distinguish between this Class and Class Na.

Class Na. Typical star, 19 Piscium, B.D.  $+2^{\circ} 4709$ , var., R.A.  $23^{\text{h}} 41^{\text{m}}.3$ , Dec.  $+2^{\circ} 56'$ . The spectrum is visible as far towards the violet as the bands H and K, but the portion between 4240 and K is even fainter than in Class R8. When the dispersion is short, the dark band 4700 separates the spectrum into two wide bright bands, the portion from 4400 to 4700 being estimated as 0.8 as intense as that from 4700 to 5100. According to this estimate of the distribution of light, spectra of this class may be designated 0, 8, 10, when compared with those of Class R5, in which the bands were estimated as 3, 6, 10.

Class Nb. Typical star, B.D.  $+67^{\circ} 350$ , ptm. magn. 7.39, R.A.  $4^{\text{h}} 40^{\text{m}}.8$ , Dec.  $+67^{\circ} 59'$ . This spectrum may be designated 0, 6, 10, when the distribution of light is considered. The bright portion from 4400 to 4700 is now only 0.6 as intense as the portion of greater wave length than 4700.

The spectra of some very red stars have recently been obtained with the 24-inch Reflector, using plates stained with pinacyanol or dicyanin. Some examples are the spectra of the variable stars, VX Andromedae, and S Cephei, and also of the stars, R.A.  $6^{\text{h}} 33^{\text{m}}.3$ , Dec.  $+22^{\circ} 42'$ , and  $+49^{\circ} 3673$ , R.A.  $21^{\text{h}} 51^{\text{m}}.5$ , Dec.  $+50^{\circ} 1'$ . These spectra show no light of shorter wave length than  $H\beta$ , and probably form a later subdivision of Class N, which may for convenience be designated Nc.

Pec. All spectra which can not be assigned to any known class, considering their principal characteristics. This includes the spectra of novae, a few variables, very red stars, and some others.

Con. Spectra apparently continuous. This includes the spectra of nebulae without bright lines, or of clusters which resemble such nebulae with the dispersion employed. As these objects appear as surfaces, and objective prisms are used, dark lines would not be visible. Neb. or Cl. is then given in the magnitude column according to the description of the object in H.A. 60, 8.

Table I contains 20,834 stars, between  $15^{\text{h}} 00^{\text{m}}.0$  and  $17^{\text{h}} 00^{\text{m}}.0$ , whose spectra have been classified. A description of each column of the table is given below, preceded by its heading.

H.D. A number for reference, to be added to the number in heavy type at the top of the first column. It is recommended that these numbers be preceded by the



letters H.D., indicating the Henry Draper Catalogue, when reference is made to their designations in this catalogue. Thus, the first star on page 17 may be referred to as H.D. 133,601. This notation also conforms to the designations H.A., H.B., and H.C., which are already in use to denote the Harvard Annals, Bulletins, and Circulars, respectively. In like manner, H.N., H.P., H.R., H.S., and H.V. are used to designate the Harvard Nebulae, Photometry, Revised Photometry, Standard Regions, and Variables, respectively.

DM. The number of the star in the Zone of the Bonn Durchmusterung, when its position for 1855 was north of declination  $-23^{\circ}$ . For stars south of this limit, and whose declination in 1875 was north of  $-52^{\circ}$ , the Cordoba Durchmusterung, and for stars south of  $-52^{\circ}$ , the Cape Photographic Durchmusterung, was used. The number of the zone is generally the same as the degree of declination given in the fourth column. When they differ, owing to precession, the number is placed in *Italics*. The number of the nearest zone is then to be substituted. For stars between  $6^{\text{h}}$  and  $18^{\text{h}}$  of right ascension, the nearest zone is always the northern, for other stars, the southern.

Nearly twelve hundred of these stars are not contained in the Bonn, Cordoba, or Cape Durchmusterungs. They are indicated by the absence of a number in the second column. The spectra of these stars were generally classified from plates taken with the 16-inch Metcalf Telescope.

R. A. 1900. The minutes and tenths of the right ascension for 1900. The right ascension of the first star is given in heavy face figures at the top of the table to the right. These positions are only approximate. Owing to the large number of stars in the Catalogue, they will fall into groups, each containing a number of stars whose right ascension is the same in this table. They are then arranged in the order of declination, the northern star being placed first. It may accordingly happen that, when two stars are near together, the preceding one, as shown by its number in the Durchmusterung, may here follow the other.

Dec. 1900. The declination for 1900, expressed in degrees and minutes.

Ptm. The photometric magnitude. This is taken from H.A. 50 or 54, for stars contained in those works, and is given to hundredths of a magnitude. For other stars, which are north of  $-62^{\circ}$ , the magnitude in the Bonn or Cordoba Durchmusterung is used after reducing it to the photometric scale by means of the tables, given in H.A. 72, 214, 245, and H.A. 80, 132. The magnitudes are then given only to tenths. The magnitudes of stars south of  $-62^{\circ}$ , and which are, therefore, not contained in the Cordoba Durchmusterung, are also given only to tenths, and are derived from the photographic magnitudes given in the next column, by subtracting

the color index depending on the class of spectrum. The color index is taken from H.A. 80, 151, and has the values for B<sub>0</sub>, -0.24; B<sub>1</sub>, -0.22; B<sub>2</sub>, -0.19; B<sub>3</sub>, -0.17; B<sub>5</sub>, -0.12; B<sub>8</sub>, -0.05; B<sub>9</sub>, -0.02; A<sub>0</sub>, 0.00; A<sub>2</sub>, +0.06; A<sub>3</sub>, +0.08; A<sub>5</sub>, +0.14; F<sub>0</sub>, +0.28; F<sub>2</sub>, +0.34; F<sub>5</sub>, +0.42; F<sub>8</sub>, +0.50; G<sub>0</sub>, +0.56; G<sub>5</sub>, +0.78; K<sub>0</sub>, +1.00; K<sub>2</sub>, +1.07; K<sub>5</sub>, +1.18; M, +1.35.

Ptg. The Photographic Magnitude. For stars north of declination  $-19^{\circ}$ , in 1875, the magnitudes are derived from the photometric magnitudes, contained in the preceding column, by adding the correction for the class of spectrum given above. For stars south of  $-19^{\circ}$ , the magnitude is taken from the Cape Durchmusterung, first reducing it to the standard scale as described in H.A. 80, 256. It will be noticed that when either the photometric or photographic magnitudes are derived by means of the color index, they are placed in *Italics*. In the first case, the color index is subtracted, in the second, added. This method is unsatisfactory from its indirectness, but no direct measures are known to exist.

Sp. The Class of Spectrum. A description of the adopted classification will be found on page 5.

Int. The photographic intensity of the spectrum as estimated by Miss Cannon when she observed it. The faintest spectra which could be classified with certainty were estimated as 1, the densest as 10. When a spectrum was too dense to be classified, it was looked for on a plate showing less faint stars. This might be due to a greater dispersion, a larger load on the pendulum of the control clock, a hazy night, or a slower emulsion.

Rem. Remarks are here indicated which furnish much additional information. The letter *x* refers to additional facts regarding the star, to be found in the Remarks following Table I. When two figures are given they show that the spectrum was classified on another plate. The first figure indicates, in tenths of the interval between two classes, how much the second classification differs from the first. Thus, if the class in column Sp. was F<sub>0</sub>, and the spectrum was again estimated F<sub>0</sub>, the first figure would be 0; if the second classification was F<sub>5</sub>, it would be 5 and if A<sub>5</sub>, it would be 5. The average value of the differences of the first 100 of these is  $\pm 0.13$ . A comparison of the classification of spectra taken at the Yerkes, Lick, Allegheny, and Mt. Wilson Observatories with that made here is contained in H.A. 56, 263, and gives the average difference  $\pm 0.14$ . When the residual was greater than 5, an estimate on a third plate was made, if practicable. If not, the spectra were re-examined. In case one observation appeared to be wrong, it was rejected, and the facts are given in the Remarks. The second figure indicates the intensity on the second plate. If the spectrum was estimated on a third plate, a hyphen is

inserted, and the estimates will be published later. When the estimates of the class differ, the most reliable one is given in Column Sp. The intensities serve to decide which is most likely to be correct; the order of precedence being 6, 5, 7, 4, 8, 3, 2, 9, 10, 1. When the column is not wide enough for a complete remark, it is given in full in the remarks following Table I.

Pl. No. The number of the plate in its series. The letter b indicates that the instrument used was the 8-inch Bache Telescope; the letter c, the 11-inch Draper Telescope; i, the 8-inch Draper Telescope; m, the 16-inch Metcalf Telescope. When the spectrum was taken from H.A. 28, 56, or 76, the volume and page are given and when derived from an unpublished manuscript, the letter M is inserted, instead of the plate number.

Table I is followed by a series of Remarks which give much additional information regarding the individual stars as described on page 14 of the previous volumes.

It may be well to remind those using this Catalogue that only the magnitudes which are given to two decimal places depend upon photometric observations made at this Observatory. For other stars the magnitudes of the Cape and Cordoba Durchmusterungs were reduced to the photometric scale according to methods fully described by Professor Pickering in H.A. 72, 233, 76, 243, and 80, 231, where the numerous sources of error are noted. While mean errors are thus removed, it is evident that an erroneous Durchmusterung magnitude of any star will cause a discordance in the reduced value. Large uncertainties often occur in the Cordoba magnitudes. Thus the star  $-45^{\circ} 6575$  in the Cordoba Durchmusterung has the magnitude 7.7 in that Catalogue, and 9 in the Cordoba Zone Catalogue. Similarly, for C.D.M.  $-47^{\circ} 8383$  the magnitudes are 7.5 and 6, and for C.D.M.  $-48^{\circ} 191$ , the magnitudes are 8.3 and 9½, in the two Cordoba catalogues, respectively. The star H. D. 108708 has a spectrum of Class A2. In H.A. 95, 54, its photographic magnitude, 10.2, is 2.2 magn. fainter than its photometric magnitude, apparently indicating that the color of the star is red. However, its photographic magnitude, which was reduced from the Cape magnitude 9.8, appears to be too faint. An examination of 10 chart photographs of this star, which is C.P.D.  $-58^{\circ} 4326$ , shows that it was always about 0.3 magn. brighter than the adjacent star, C.P.D.  $-58^{\circ} 4324$ , magn. 8.3. There is, however, the possibility that such an object may be a variable of the Algol type.

**TABLE I.**  
**THE HENRY DRAPER CATALOGUE.**

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

133500

14<sup>h</sup> 59<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	9273	59.7	-40 26	8.6	10.7	K5	2	..	21508b	51	9484	0.0	-41 33	10.0	10.3	Ao	3	..	37602b
2	9852	59.7	-45 5	9.37	10.2	Go	4	..	37602b	52	9485	0.0	-41 39	8.4	9.5	Ko	5	..	37602b
3	9695	59.7	-47 53	8.5	8.6	F2	6	..	37909b	53	9697	0.0	-47 16	10.3	10.9	K2	1	..	37909b
4	9326	59.7	-49 8	9.5	9.6	A2	3	..	37909b	54	6329	0.0	-54 37	9.2	10.4	Ko	1	..	40421b
5	9325	59.7	-49 35	9.7	10.2	Ko	2	..	37909b	55	6584	0.0	-56 33	9.0	10.1	F5	4	..	37618b
6	8743	59.7	-51 48	9.5	10.5	K5	1	..	40421b	56	5815	0.0	-59 0	8.4	9.1	F8	6	..	37618b
7	6582	59.7	-57 3	7.1	8.4	Ko	7	..	37618b	57	5637	0.0	-60 45	6.70	6.7	F5	8	..	37618b
8	6913	59.7	-57 8	10.4	10.4	A	3	..	37618b	58	3100	0.0	-64 15	8.7	8.8	A2	8	..	21824b
9	2721	59.7	-67 4	9.2	9.2	Ao	7	..	21824b	59	2766	0.0	-67 17	10.6	10.6	B9	2	..	21824b
10	1473	59.7	-74 3	8.9	9.7	G5	2	..	14146b	60	2765	0.0	-67 46	9.5	10.6	K2	1	..	21824b
11	2971	59.8	+7 57	10.6	11.6	Ko	1	..	19011b	61	2304	0.0	-68 26	9.0	10.0	Ko	3	..	21824b
12	4026	59.8	-21 51	9.6	10.1	Fo	2	..	40576b	62	1846	0.1	+52 33	9.1	10.1	K	2	..	37573i
13	10030	59.8	-35 42	9.6	10.6	K5	3	..	21508b	63	2022	0.1	+46 32	8.8	9.2	F5	2	..	37640i
14	9936	59.8	-37 27	9.6	9.8	Go	4	..	21508b	64	2253	0.1	+45 22	8.2	8.7	F8	2	..	37640i
15	10001	59.8	-43 0	9.7	10.1	F8	3	..	37602b	65	2903	0.1	+8 57	9.1	10.3	K5	2	..	19011b
16	9645	59.8	-46 4	8.4	9.5	G5	3	..	37909b	66	2889	0.1	+7 5	9.1	9.1	Ao	2	..	11333b
17	9081	59.8	-50 36	9.5	9.6	B9	3	..	37909b	67	2922	0.1	-0 25	10.1	10.9	G5	1	..	41558b
18	8745	59.8	-51 39	6.58	6.8	B3	..	0.5	28,209	68	4196	0.1	-13 7	9.7	10.5	G5	2	..	40453b
19	6283	59.8	-53 47	10.4	10.4	Ao	2	..	40421b	69	4019	0.1	-20 2	8.43	8.3	Ao	7	..	40576b
20	6362	59.8	-55 9	10.1	10.1	Ao	2	..	40421b	70	11848	0.1	-24 48	10.4	10.0	A3	2	..	40457b
21	6583	59.8	-56 23	10.4	10.4	Ao	3	..	37618b	71	11529	0.1	-30 2	8.08	9.3	K2	3	..	41209b
22	5635	59.8	-60 17	9.2	10.4	K5	1	..	37618b	72	11713	0.1	-31 20	10.6	10.6	Ko	1	..	39299b
23	3097	59.8	-64 18	10.1	11.1	K	1	..	21824b	73	10173	0.1	-34 32	8.9	10.1	K5	1	..	21508b
24	3098	59.8	-64 26	10.0	10.0	B9	3	..	21824b	74	10172	0.1	-35 1	8.48	8.9	A5	6	..	21508b
25	2982	59.8	-66 6	7.6	7.6	B9	4	..	36002b	75	6330	0.1	-54 49	10.6	10.7	A2	1	..	40421b
26	2244	59.8	-70 2	9.0	10.0	Ko	2	..	14146b	76	6363	0.1	-55 41	10.3	10.4	A3	1	..	37618b
27	1697	59.8	-72 25	8.7	9.8	K2	3	..	14146b	77	2723	0.1	-66 13	8.5	8.5	B9	9	..	21824b
28	3056	59.9	+20 15	7.60	8.60	Ko	5	..	38340i	78	2722	0.1	-66 26	10.2	10.3	A3	4	..	21824b
29	10710	59.9	-25 24	6.59	7.1	B8	6	0.8	5182b	79	2767	0.1	-67 49	9.5	10.6	K2	2	..	21824b
30	10709	59.9	-25 52	10.0	10.2	Ko	2	..	40576b	80	1944	0.1	-70 52	8.7	9.7	Ko	4	..	14146b
31	9896	59.9	-36 54	8.1	8.3	A2	8	..	21508b	81	755	0.1	-80 23	8.43	8.3	Ao	5	..	13442b
32	10003	59.9	-42 30	8.5	8.1	F2	7	..	37602b	82	2447	0.2	+27 20	4.67	5.67	Ko	..	0, R	56,91
33	9799	59.9	-46 14	9.9	9.8	A3	3	..	37909b	83	3022	0.2	+0 53	8.24	9.24	Ko	2	..	37729i
34	9084	59.9	-51 4	9.1	9.9	Ko	3	..	40421b	84	4130	0.2	-6 38	7.52	8.08	Go	7	..	41558b
35	7842	59.9	-52 31	8.5	9.0	K2	5	..	40421b	85	10212	0.2	-27 53	8.9	9.3	G5	3	..	41209b
36	6361	59.9	-55 58	9.9	10.4	F8	1	..	37618b	86	11714	0.2	-31 41	9.1	10.3	K2	3	..	39299b
37	3099	59.9	-64 45	9.0	10.0	Ko	5	..	21824b	87	9941	0.2	-38 0	10.9	10.7	F2	1	..	21508b
38	2764	59.9	-67 7	9.7	10.7	Ko	1	..	21824b	88	9952	0.2	-38 40	9.6	11.2	K5	1	..	21508b
39	1476	59.9	-73 40	9.2	9.7	F8	2	..	14146b	89	9487	0.2	-42 5	10.4	10.7	A2	2	..	37602b
40	1475	59.9	-74 1	8.8	9.6	G5	3	..	14146b	90	9858	0.2	-45 2	9.16	9.7	Go	5	..	37602b
41	565	0.0	+76 55	7.9	8.9	Ko	5	5.5	37809i	91	9802	0.2	-46 42	10.1	10.6	Go	1	..	37909b
42	2021	0.0	+46 1	8.6	9.1	F8	2	..	37640i	92	9626	0.2	-48 53	9.9	9.6	A2	2	..	37909b
43	2552	0.0	+41 47	8.8	9.2	F5	2	..	37640i	93	7850	0.2	-52 49	10.5	10.5	Ao	2	..	40421b
44	2618	0.0	+29 26	7.81	7.87	A2	7	0.7	17783i	94	6288	0.2	-53 57	8.4	9.0	B8	5	..	40421b
45	4018	0.0	-19 44	9.9	10.9	Ko	1	..	40622b	95	2246	0.2	-69 47	9.4	9.4	Ao	3	..	14146b
46	4027	0.0	-21 48	9.7	10.1	F2	3	..	40576b	96	819	0.3	+69 56	9.7	10.5	G5	1	..	38737i
47	3899	0.0	-22 35	8.7	9.3	Ko	5	..	40576b	97	1383	0.3	+61 52	9.4	10.2	G5	1	..	38764i
48	11953	0.0	-30 35	10.4	10.3	A2	2	..	39299b	98	2780	0.3	+22 48	8.3	8.7	F5	5	..	17783i
49	10034	0.0	-35 41	10.9	10.7	Go	1	..	21508b	99	2815	0.3	+15 47	10.5	11.3	G5	2	..	5403m
50	10035	0.0	-35 53	6.42	7.2	K5	9	..	21508b	100	2987	0.3	+6 40	8.7	9.3	Go	4	..	11333b

## THE HENRY DRAPER CATALOGUE.

133600

15<sup>h</sup> 0<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2911	0.3	+ 2 24	8.5	9.5	Ko	4	..	37729i	51	10716	0.5	-25 43	7.9	9.3	K2	4	..	40576b
2	3804	0.3	- 4 37	8.7	9.0	Fo	4	..	41558b	52	11960	0.5	-30 32	6.01	7.0	Aop	..	I, R	56,136
3	4028	0.3	-22 1	7.6	8.6	Ko	7	..	40576b	53	9547	0.5	-39 17	9.6	10.1	G5	4	..	21508b
4	3901	0.3	-22 56	7.07	8.3	F2	9	..	40576b	54	9631	0.5	-43 22	10.6	10.2	A2	3	..	37602b
5	10713	0.3	-25 40	9.7	9.6	F5	2	..	40576b	55	9705	0.5	-47 35	11.0	10.6	Ao	2	..	37909b
6	10039	0.3	-35 29	10.9	11.0	A5	1	..	21508b	56	9706	0.5	-47 54	8.1	8.2	A5	7	..	37909b
7	9954	0.3	-38 27	8.9	10.1	A2	2	..	37630b	57	8754	0.5	-51 13	9.7	9.9	Ko	3	..	40421b
8	9282	0.3	-40 56	9.8	11.0	K2	3	..	37602b	58	6369	0.5	-55 21	8.3	10.1	Ma	3	..	40421b
9	9627	0.3	-43 18	10.1	10.7	Go	2	..	37602b	59	6918	0.5	-57 35	10.4	10.4	Ao	2	..	37618b
10	9649	0.3	-45 27	9.1	9.5	Ao	5	..	37909b	60	5820	0.5	-58 19	8.4	8.3	B9	5	..	37618b
11	9700	0.3	-47 21	9.7	10.6	K2	2	..	37909b	61	5824	0.5	-60 2	9.6	9.7	A5	2	..	37618b
12	9703	0.3	-47 36	9.5	10.2	Ko	3	..	37909b	62	5640	0.5	-60 39	9.9	10.0	A2	2	..	37618b
13	9088	0.3	-50 58	9.9	10.0	Fo	2	..	40421b	63	2987	0.5	-65 11	9.1	9.1	Ao	7	..	21824b
14	8750	0.3	-51 7	11.0	10.2	B9	3	..	40421b	64	..	0.5	-67 11	..	..	K2	3	..	21824b
15	6289	0.3	-53 27	8.9	9.2	Ao	5	..	40421b	65	1948	0.5	-70 22	9.1	10.3	K5	1	..	14146b
16	6333	0.3	-54 10	9.2	10.1	A3	3	..	40421b	66	1780	0.6	+56 26	6.81	7.88	K2	6	..	37804i
17	5820	0.3	-59 25	10.0	10.0	Ao	2	..	37618b	67	2732	0.6	+15 59	10.5	11.6	K2	2	..	5403m
18	5821	0.3	-59 35	9.2	8.8	B9	5	..	37618b	68	2832	0.6	+14 1	9.1	9.6	F8	6	R	5403m
19	1324	0.3	-74 22	8.4	9.6	K5	3	..	14146b	69	4029	0.6	-10 49	8.9	9.7	G5	3	..	41198b
20	961	0.3	-78 38	9.5	9.5	A	1	..	40252b	70	4030	0.6	-21 39	6.11	7.8	Ko	6	0,10	35804b
21	664	0.4	+72 9	6.66	7.22	Go	8	..	38732i	71	11853	0.6	-24 7	10.9	10.7	G5	1	..	40457b
22	2867	0.4	+25 0	8.7	9.9	K5	1	..	17783i	72	10718	0.6	-25 38	10.2	9.0	A3	3	..	40576b
23	2816	0.4	+15 27	10.5	11.1	Go	3	..	5403m	73	11717	0.6	-32 4	8.1	9.5	K5	5	..	39299b
24	2830	0.4	+14 28	9.1	9.9	G5	7	5,2	5403m	74	10176	0.6	-34 42	9.6	9.9	Ao	4	..	21508b
25	2831	0.4	+14 1	8.5	9.5	Ko	8	2,3	5403m	75	9945	0.6	-38 1	10.6	10.7	F8	1	..	21508b
26	2923	0.4	- 0 21	9.0	10.0	Ko	3	..	41558b	76	9287	0.6	-41 2	10.2	11.0	Ko	1	..	37602b
27	12059	0.4	-23 45	6.90	7.8	G5	10	..	40576b	77	9495	0.6	-41 19	9.2	9.5	Fo	4	..	37602b
28	10593	0.4	-32 13	8.4	9.6	Ko	4	..	39299b	78	10023	0.6	-42 32	10.3	10.7	A5	2	..	37602b
29	9285	0.4	-40 14	9.18	9.5	A2	5	..	21508b	79	9865	0.6	-44 30	10.6	10.7	Ao	1	..	37602b
30	9493	0.4	-42 2	10.9	11.2	A2	1	..	37602b	80	9095	0.6	-50 54	9.9	10.0	Fo	2	..	40421b
31	9630	0.4	-48 42	5.83	7.7	Ko	..	5,5-	28,209	81	6292	0.6	-53 51	9.0	9.8	Fo	4	..	40421b
32	9336	0.4	-49 40	9.5	10.5	Ko	1	..	37909b	82	5821	0.6	-58 19	8.4	8.2	B9	5	..	37618b
33	5823	0.4	-59 34	8.7	8.9	Go	4	..	37618b	83	2725	0.6	-66 42	5.80	7.6	F8p	..	R	56,136
34	2985	0.4	-65 28	10.0	10.3	Fo	3	..	21824b	84	1750	0.6	-71 17	7.18	8.5	Ko	8	..	14146b
35	2986	0.4	-66 5	9.1	9.1	Ao	7	..	21824b	85	2820	0.7	+16 57	10.5	11.3	G5	3	..	5403m
36	2724	0.4	-66 56	10.2	10.2	B9	4	..	21824b	86	2785	0.7	+12 15	7.7	8.9	K5	3	..	37745i
37	2769	0.4	-67 23	10.0	10.0	Ao	5	..	21824b	87	3726	0.7	- 3 37	9.2	9.7	F8	3	..	41558b
38	2307	0.4	-68 20	6.97	7.0	Ao	8	R	36002b	88	3905	0.7	- 9 9	8.5	9.3	G5	2	..	13422b
39	1478	0.4	-73 29	8.5	9.3	G5	6	..	14146b	89	4030	0.7	-10 21	9.26	9.26	Ao	1	..	13422b
40	2259	0.5	+48 3	4.86	5.42	Go	..	0, R	56,91	90	3974	0.7	-18 43	9.2	9.6	F5	6	..	40622b
41	2647	0.5	+25 51	8.1	8.6	F8	4	..	17783i	91	4029	0.7	-21 28	8.7	9.3	G5	5	..	40576b
42	2784	0.5	+12 20	8.5	9.0	F8	3	..	37745i	92	9552	0.7	-39 7	9.6	10.1	Go	4	..	21508b
43	2891	0.5	+ 7 41	10.5	11.5	Ko	1	..	19011b	93	9497	0.7	-42 6	9.6	9.9	G5	4	..	37602b
44	2924	0.5	- 0 55	8.1	8.6	F8	4	..	41558b	94	9809	0.7	-46 43	9.5	10.6	K2	1	..	37909b
45	3014	0.5	- 1 36	7.7	8.7	Ko	6	5,5	41558b	95	8760	0.7	-51 40	11.6	10.7	A2	1	..	40421b
46	3725	0.5	- 3 59	9.1	9.5	F5	3	..	41558b	96	7857	0.7	-52 54	10.8	10.8	Ao	1	..	40421b
47	4002	0.5	-16 32	9.4	9.5	A5	4	..	40622b	97	6293	0.7	-53 56	10.4	10.4	A	3	..	40421b
48	3973	0.5	-18 46	9.2	9.7	F8	6	..	40622b	98	6371	0.7	-55 51	10.4	10.4	Ao	1	..	37618b
49	3972	0.5	-19 0	7.87	8.87	Ko	7	..	40622b	99	4837	0.7	-61 15	7.10	6.3	B8	10	..	19901b
50	12060	0.5	-23 35	9.2	9.6	A2	5	..	40576b	100	2988	0.7	-66 5	10.2	10.2	Ao	3	..	21824b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

133700

15<sup>h</sup> 0<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2770	m. 0.7	• -67 25	10.6	10.6	Ao	2	..	21824b	51	10309	m. 1.0	• -33 35	9.0	10.4	K5	2	..	39299b
2	1703	0.7	-72 45	9.1	9.1	B8	4	..	14146b	52	10031	1.0	-42 11	10.1	10.3	A5	2	..	37602b
3	707	0.8	+71 29	8.8	10.0	K5	2	..	38732i	53	9870	1.0	-44 45	10.1	11.1	K2	1	..	37602b
4	885	0.8	+66 22	7.73	8.73	Ko	6	..	38737i	54	9638	1.0	-48 10	10.1	9.3	A2	4	..	37909b
5	2817	0.8	+15 39	10.5	11.1	G	1	..	5403m	55	7861	1.0	-52 30	9.0	8.7	B9	7	..	40421b
6	2833	0.8	+14 0	10.5	11.3	G5	2	..	5403m	56	6295	1.0	-53 15	8.7	10.4	Ko	3	..	40421b
7	2891	0.8	+13 27	10.5	11.3	G5	2	..	5403m	57	6378	1.0	-55 36	8.3	8.6	B8	8	..	40421b
8	2786	0.8	+12 1	8.1	8.7	Go	4	..	37745i	58	6376	1.0	-56 3	10.4	10.4	Ao	3	..	37618b
9	4004	0.8	-16 41	9.4	10.4	Ko	1	..	40622b	59	6591	1.0	-56 44	9.8	10.4	Go	2	..	37618b
10	3975	0.8	-18 21	var.	var.	Md	..	R	M	60	4396	1.0	-62 47	9.0	10.0	Ko	3	..	21824b
11	12062	0.8	-23 23	9.5	10.1	Go	3	..	40576b	61	3102	1.0	-64 18	9.3	9.4	A2	5	..	21824b
12	11858	0.8	-24 54	10.2	10.4	G5	1	..	40457b	62	2992	1.0	-65 32	10.3	11.1	G5	2	..	21824b
13	10307	0.8	-33 6	9.8	10.3	Go	2	..	39299b	63	2990	1.0	-65 36	10.1	11.1	Ko	3	..	21824b
14	10045	0.8	-35 39	10.2	9.8	Ao	5	..	21508b	64	2726	1.0	-66 17	10.2	10.2	Ao	4	..	21824b
15	10044	0.8	-35 55	8.9	9.8	G5	4	..	21508b	65	1752	1.0	-71 11	10.0	10.0	Ao	1	..	14146b
16	9948	0.8	-37 34	7.22	6.8	A2	7	..	43316b	66	1704	1.0	-73 3	8.1	8.4	Fo	7	..	14146b
17	9557	0.8	-39 39	10.2	10.6	F2	1	..	21508b	67	654	1.1	+73 25	8.2	8.7	F8	2	..	38732i
18	9291	0.8	-40 53	10.2	11.0	F2	1	..	37602b	68	1584	1.1	+60 26	6.81	7.99	K5	7	..	38764i
19	9502	0.8	-41 22	10.2	10.7	Go	1	..	37602b	69	3057	1.1	+20 46	8.1	8.4	Fo	3	..	38340i
20	9869	0.8	-45 4	10.1	10.7	F5	1	..	37602b	70	2788	1.1	+9 55	9.27	10.45	K5	1	..	19011b
21	9810	0.8	-46 14	10.1	10.2	A2	2	..	37909b	71	3017	1.1	-1 29	8.9	9.3	F5	4	..	41558b
22	9097	0.8	-50 45	10.1	9.6	B8	4	..	40421b	72	4198	1.1	-12 31	7.32	7.32	Ao	9	0,10	19021b
23	6294	0.8	-53 50	8.3	8.9	A2	7	..	40421b	73	4027	1.1	-15 46	9.7	10.5	G5	2	..	40622b
24	6341	0.8	-54 47	10.4	10.4	B9	2	..	40421b	74	4026	1.1	-15 52	5.28	6.28	Ko	10	R	40622b
25	2832	0.9	+39 0	7.50	8.00	F8	6	3,7	37800i	75	4024	1.1	-19 49	8.8	9.3	Go	4	..	40622b
26	2648	0.9	+34 51	8.42	8.92	F8	3	..	37800i	76	10711	1.1	-26 18	9.7	10.0	G5	2	..	40457b
27	2963	0.9	+4 23	8.3	8.6	Fo	5	..	37729i	77	10217	1.1	-27 44	9.2	10.4	K5	1	..	41209b
28	4069	0.9	-9 12	9.1	9.4	F2	2	..	13422b	78	11165	1.1	-28 26	7.7	8.7	F5	4	..	41209b
29	11719	0.9	-31 16	9.1	8.4	B9	3	..	41209b	79	10601	1.1	-32 59	9.6	10.3	Go	2	..	39299b
30	10046	0.9	-35 15	9.28	9.8	F5	6	..	21508b	80	10314	1.1	-33 15	10.4	10.3	A2	2	..	39299b
31	9960	0.9	-38 38	8.6	11.0	K5	2	..	21508b	81	9505	1.1	-41 19	9.5	10.6	Fo	2	..	37602b
32	9503	0.9	-41 10	8.9	10.6	Ma	3	..	37602b	82	9662	1.1	-45 18	8.1	8.7	Ko	3	..	37909b
33	10029	0.9	-42 43	9.1	8.7	A2	6	..	37602b	83	9660	1.1	-45 35	9.9	9.2	Ao	3	..	37909b
34	9710	0.9	-47 18	9.3	10.3	K2	3	..	37909b	84	8766	1.1	-51 36	10.3	10.5	A3	3	..	40421b
35	9345	0.9	-49 26	9.5	9.9	Ko	2	..	37909b	85	6297	1.1	-53 58	9.8	10.1	Fo	3	..	40421b
36	8763	0.9	-51 7	8.6	10.2	Fo	6	..	40421b	86	6380	1.1	-55 25	8.5	8.6	B8	8	..	40421b
37	7858	0.9	-52 39	10.2	10.2	Ao	3	..	40421b	87	6377	1.1	-55 57	9.7	10.8	K2	2	..	37618b
38	4838	0.9	-61 30	6.8	6.4	B5	10	..	19901b	88	6592	1.1	-57 3	10.4	10.4	Ao	2	..	37618b
39	4395	0.9	-63 0	10.0	10.0	Ao	3	..	21824b	89	6919	1.1	-57 13	10.4	10.4	Ao	3	..	37618b
40	3516	0.9	-63 8	8.3	9.3	Ko	5	..	21824b	90	5825	1.1	-58 45	6.96	8.2	Ko	8	..	37618b
41	2311	0.9	-68 45	10.0	10.0	Ao	2	..	14146b	91	5643	1.1	-60 12	9.2	8.8	B9	4	..	37618b
42	1953	0.9	-70 55	8.7	9.7	Ko	4	..	14146b	92	3518	1.1	-63 16	6.38	6.2	Aop	..	0,9 R	56,136
43	981	0.9	-76 49	9.6	10.2	G	1	..	40252b	93	3103	1.1	-65 1	9.9	10.0	A2	5	..	21824b
44	2135	1.0	+50 19	9.1	9.9	G5	2	..	37573i	94	1753	1.1	-71 18	9.9	10.0	A3	2	..	14146b
45	2964	1.0	+4 37	7.25	7.53	Fo	8	..	37729i	95	1707	1.1	-72 46	8.2	8.7	F8	5	..	14146b
46	3727	1.0	-3 23	9.2	9.7	F8	4	..	41558b	96	1328	1.1	-74 42	9.3	10.5	K5	1	..	14146b
47	4025	1.0	-15 58	9.7	10.7	Ko	2	..	40622b	97	982	1.1	-76 42	9.5	9.6	A2	4	..	40252b
48	12063	1.0	-23 14	9.9	10.1	G5	3	..	40576b	98	964	1.1	-79 4	8.2	9.2	Ko	2	..	40252b
49	10710	1.0	-26 26	8.0	9.1	K2	4	..	41209b	99	2542	1.2	+32 44	8.1	9.1	Ko	3	..	37800i
50	10600	1.0	-32 32	7.34	7.5	Ao	6	2,8	43316b	100	4028	1.2	-16 6	6.63	6.63	Ao	..	..	56,136

## THE HENRY DRAPER CATALOGUE.

133800

15<sup>h</sup> 1<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4252	1.2	-17 43	8.8	8.9	A3	6	..	40622b	51	5829	1.5	-59 31	9.0	8.8	B8	4	..	37618b
2	10714	1.2	-27 6	8.2	7.6	A5	6	..	41209b	52	..	1.5	-64 51	..	..	Ma	1	..	21824b
3	11538	1.2	-29 7	8.1	8.0	Fo	5	..	41209b	53	2994	1.5	-65 57	10.0	10.6	Go	3	..	21824b
4	9508	1.2	-41 50	10.0	9.9	Ao	4	..	37602b	54	1958	1.5	-71 3	9.9	10.0	A2	1	..	14146b
5	9872	1.2	-44 16	9.9	10.0	F8	3	..	37602b	55	2848	1.6	+40 20	8.7	9.1	F5	2	..	3764oi
6	9875	1.2	-44 42	9.9	10.9	F8	2	..	37602b	56	..	1.6	+16 49	..	..	G5	1	..	5403m
7	9716	1.2	-47 47	9.0	10.7	K5	2	..	37909b	57	2818	1.6	+15 45	9.8	11.0	K5	2	..	5403m
8	9348	1.2	-49 45	8.5	9.4	F5	5	..	37909b	58	2835	1.6	+14 46	10.5	10.9	F5	3	..	5403m
9	7866	1.2	-52 57	10.2	10.2	Ao	2	..	40421b	59	2771	1.6	+11 9	8.1	8.2	A2	2	..	37217i
10	5826	1.2	-58 14	9.0	9.4	F5	2	R	37618b	60	3906	1.6	-8 23	8.7	8.8	A5	4	..	13422b
11	2771	1.2	-67 48	8.8	8.8	B9	8	..	21824b	61	4119	1.6	-14 14	8.6	9.4	G5	3	..	41198b
12	1708	1.2	-72 39	9.3	9.6	F2	3	..	14146b	62	4027	1.6	-19 51	8.7	9.9	K5	3	0,2	40622b
13	1329	1.2	-74 52	8.7	9.7	Ko	2	..	14146b	63	10605	1.6	-32 47	9.5	9.8	Go	2	..	39299b
14	817	1.3	+68 16	8.2	8.7	F8	5	..	38737i	64	10185	1.6	-35 6	10.2	11.0	G5	2	..	21508b
15	864	1.3	+67 35	9.0	9.8	G5	2	..	38737i	65	9304	1.6	-40 27	8.6	9.5	K2	5	..	21508b
16	1585	1.3	+59 55	8.41	8.83	F5	3	..	38764i	66	9514	1.6	-41 56	10.2	10.3	G5	3	..	37602b
17	2558	1.3	+41 29	7.48	8.26	G5	6	..	3764oi	67	9643	1.6	-43 52	9.7	11.0	Ko	2	..	37602b
18	2995	1.3	+5 55	7.14	7.42	Fo	7	..	37729i	68	5648	1.6	-60 24	9.2	9.2	Ao	3	..	37618b
19	3018	1.3	+1 57	8.9	9.5	Go	2	..	41558b	69	4841	1.6	-61 6	8.1	9.2	K5	2	..	19901b
20	9641	1.3	-43 20	7.2	7.8	Ao	5	1,10	43859b	70	4840	1.6	-61 37	9.2	9.2	Ao	2	..	19750b
21	9876	1.3	-44 26	9.2	9.5	F8	5	..	37602b	71	2773	1.6	-67 12	8.4	9.2	G5	6	..	21824b
22	9664	1.3	-45 11	7.41	7.4	G5	5	..	37909b	72	335	1.7	+84 20	7.12	8.12	Ko	6	..	37813i
23	2993	1.3	-65 8	9.1	9.1	B8	6	..	21824b	73	2695	1.7	+31 26	7.9	9.1	K5	1	..	38422i
24	2727	1.3	-66 20	9.9	10.4	F8	3	..	21824b	74	2733	1.7	+16 36	10.5	11.1	G	2	..	5403m
25	2728	1.3	-66 52	9.7	9.8	A2	4	..	21824b	75	2734	1.7	+16 12	10.1	10.9	G5	1	..	5403m
26	886	1.4	+66 10	7.26	7.82	Go	8	..	38737i	76	2996	1.7	+6 10	8.5	8.9	F5	4	..	37729i
27	2772	1.4	+23 4	9.7	9.5	G5	1	..	17783i	77	4011	1.7	-5 27	9.1	10.2	K2	2	..	41558b
28	2973	1.4	+3 2	9.1	9.7	G	2	..	37729i	78	4151	1.7	-20 19	8.43	9.2	F8	5	..	40576b
29	4026	1.4	-19 26	9.7	9.9	G5	2	..	40622b	79	11170	1.7	-28 30	8.3	9.3	F2	3	..	41209b
30	9639	1.4	-43 56	11.0	11.4	Ko	1	..	37602b	80	9305	1.7	-40 12	6.01	6.7	Aop	..	0, R	56,136
31	9721	1.4	-47 27	9.3	9.2	Ao	7	..	37909b	81	7877	1.7	-52 13	9.1	10.2	K2	2	..	40421b
32	9720	1.4	-47 59	9.5	9.2	A2	4	..	37909b	82	7878	1.7	-52 38	10.5	10.5	Ao	2	..	40421b
33	6301	1.4	-53 25	8.2	8.4	B9	7	..	40421b	83	6306	1.7	-53 35	10.4	10.4	B9	1	..	40421b
34	6383	1.4	-55 56	10.4	10.4	Ao	3	..	37618b	84	6352	1.7	-54 33	8.3	10.4	Ma	3	..	40421b
35	5829	1.4	-58 26	9.4	9.7	F2	2	..	37618b	85	6387	1.7	-55 53	8.3	10.1	K5	3	..	37618b
36	5645	1.4	-60 18	8.7	8.8	A2	5	..	37618b	86	6594	1.7	-56 59	8.3	9.2	G5	7	..	37618b
37	1754	1.4	-71 16	8.9	10.0	K2	1	..	14146b	87	5649	1.7	-60 12	9.4	9.5	A2	3	..	37618b
38	1115	1.4	-75 54	8.3	8.7	F5	5	..	40252b	88	3520	1.7	-63 41	9.8	9.8	Ao	2	..	21824b
39	780	1.5	+68 55	9.6	10.6	Ko	1	..	38737i	89	3519	1.7	-64 1	9.4	10.4	Ko	2	..	21824b
40	2834	1.5	+13 57	10.5	11.1	Go	2	..	5403m	90	2315	1.7	-68 54	9.3	10.5	K5	1	..	14146b
41	2974	1.5	+3 23	7.6	7.9	Fo	8	..	37729i	91	2849	1.8	+40 26	9.2	9.8	G	2	..	3764oi
42	2975	1.5	+3 0	9.1	9.7	Go	4	..	37729i	92	3019	1.8	-1 18	9.8	10.8	Ko	1	..	41558b
43	12067	1.5	-23 49	7.35	8.3	G5	8	..	40576b	93	3020	1.8	-1 55	8.3	9.4	K2	3	..	41558b
44	11727	1.5	-31 52	9.7	10.6	K5	1	..	39299b	94	3908	1.8	-8 33	8.3	9.7	Ma	3	0,2	40596b
45	10321	1.5	-33 17	9.2	9.8	Ko	3	..	39299b	95	4007	1.8	-16 59	9.7	10.2	F8	4	..	40622b
46	10186	1.5	-34 31	9.3	10.1	Ao	3	..	21508b	96	10728	1.8	-25 39	10.4	9.6	A2	2	..	40576b
47	10054	1.5	-35 23	9.6	10.7	G5	2	..	21508b	97	10609	1.8	-32 49	9.2	9.2	Go	4	..	39299b
48	9512	1.5	-41 49	8.2	10.3	Ma	4	..	37602b	98	9923	1.8	-36 10	8.3	9.2	Ko	5	..	21508b
49	9648	1.5	-48 18	10.3	10.0	A3	2	..	37909b	99	9573	1.8	-39 37	10.2	10.6	A3	2	..	21508b
50	9108	1.5	-50 54	9.9	10.5	Ko	1	..	40421b	100	9112	1.8	-50 18	8.9	8.7	B9	6	..	37909b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

133900

15<sup>h</sup> 1<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	9113	1.8	-50 47	9.2	9.3	B8	4	..	40421b	51	9964	2.1	-37 35	9.8	10.6	G5	1	..	21508b
2	6355	1.8	-54 22	10.4	10.4	Ao	2	..	40421b	52	9577	2.1	-39 24	9.6	10.3	Ko	4	..	21508b
3	6388	1.8	-55 28	8.5	9.0	B9	7	..	40421b	53	9311	2.1	-40 34	8.2	9.2	Ko	6	..	21508b
4	6596	1.8	-56 41	8.3	9.2	Ko	8	..	37618b	54	9884	2.1	-44 6	8.1	7.7	Ao	9	..	37602b
5	6920	1.8	-57 10	9.6	10.7	K2	1	..	37618b	55	9889	2.1	-44 54	4.39	4.22	B3	..	0,9 R	28,209
6	5650	1.8	-60 22	8.3	9.2	K2	3	..	37618b	56	9822	2.1	-46 57	10.6	10.1	A	1	..	37909b
7	2729	1.8	-66 7	9.5	10.3	G5	2	..	21824b	57	9730	2.1	-47 45	9.1	8.0	Ao	6	..	37909b
8	812	1.8	-79 8	8.5	9.5	Ko	1	..	40252b	58	9118	2.1	-50 29	7.9	8.7	G5	6	..	37909b
9	1586	1.9	+59 55	7.26	7.32	A2	8	..	38764i	59	9116	2.1	-50 52	10.6	10.2	Fo	1	..	40421b
10	2418	1.9	+43 54	8.8	9.4	Go	2	..	37640i	60	8782	2.1	-52 4	9.5	10.2	Ko	2	..	40421b
11	2772	1.9	+11 27	8.3	9.5	K5	1	..	37217i	61	2776	2.1	-67 36	8.4	9.6	K5	6	..	21824b
12	4121	1.9	-14 18	8.1	9.5	Ma	2	..	41198b	62	2262	2.2	+48 32	5.59	5.59	Ao	..	0, R	56,91
13	4120	1.9	-15 2	7.61	7.95	F2	7	..	41198b	63	2539	2.2	+33 18	8.8	9.2	F5	3	..	37800i
14	4032	1.9	-16 2	9.4	10.4	Ko	2	..	40622b	64	2696	2.2	+31 34	8.6	9.4	G5	2	..	38422i
15	9962	1.9	-37 27	9.3	10.6	Ko	1	..	21508b	65	2624	2.2	+29 35	8.6	9.6	Ko	2	..	38422i
16	9820	1.9	-46 56	9.9	9.5	Ao	3	..	37909b	66	2626	2.2	+29 22	8.9	8.9	A	3	..	17783i
17	3105	1.9	-64 33	10.5	10.6	A5	2	..	21824b	67	2837	2.2	+14 28	8.5	9.5	Ko	7	0, I-	5403m
18	2731	1.9	-66 30	8.9	8.9	Ao	8	..	21824b	68	11737	2.2	-31 28	9.1	10.4	Ko	2	..	39299b
19	2730	1.9	-66 43	9.8	9.8	B9	4	..	21824b	69	10194	2.2	-34 52	9.5	10.6	K2	1	..	21508b
20	2774	1.9	-67 55	9.4	10.2	G5	2	..	21824b	70	10062	2.2	-35 46	10.6	10.7	Go	2	..	21508b
21	965	1.9	-78 45	6.62	7.5	Ko	7	..	13442b	71	9578	2.2	-39 54	8.7	8.4	A5	8	..	21508b
22	2450	2.0	+26 49	8.3	9.4	K2	2	..	17783i	72	9526	2.2	-41 26	10.2	9.9	Ao	3	..	37602b
23	2871	2.0	+25 19	8.6	9.2	Go	2	..	17783i	73	10053	2.2	-42 28	8.5	8.9	Fo	5	..	37602b
24	2836	2.0	+14 21	9.3	9.7	F5	6	..	5403m	74	10054	2.2	-42 40	9.3	9.9	F8	3	..	37602b
25	2893	2.0	+13 15	10.5	11.0	F8	2	..	5403m	75	9657	2.2	-48 17	9.3	9.6	G5	2	..	37909b
26	2997	2.0	+6 45	9.5	10.0	F8	2	..	11333b	76	9364	2.2	-49 30	9.1	9.9	Ko	2	..	37909b
27	2972	2.0	+4 50	8.41	9.19	G5	3	..	37729i	77	5832	2.2	-59 34	9.1	10.2	K5	1	..	37618b
28	3021	2.0	-1 54	8.5	9.0	F8	5	E	37729i	78	2995	2.2	-65 48	10.0	10.0	B9	2	..	21824b
29	4154	2.0	-21 0	9.9	10.7	Ko	1	..	40622b	79	..	2.2	-67 5	..	..	Ko	3	..	21824b
30	3902	2.0	-22 19	9.9	10.2	F8	2	..	40576b	80	1757	2.2	-71 43	9.4	10.2	G5	1	..	14146b
31	11867	2.0	-24 52	8.3	8.7	Fo	7	..	40576b	81	1714	2.2	-72 23	6.11	6.1	Ao	8	..	35947b
32	10730	2.0	-25 23	10.4	10.2	G5	1	..	40576b	82	1484	2.2	-73 58	9.9	10.2	F2	2	..	14146b
33	9963	2.0	-37 38	10.4	10.6	Go	1	..	21508b	83	988	2.2	-77 5	9.3	9.7	F5	3	..	40252b
34	9980	2.0	-38 13	10.2	11.0	F8	2	..	21508b	84	2138	2.3	+50 3	8.8	9.6	G5	1	..	37573i
35	9982	2.0	-38 44	8.9	10.4	K5	3	..	21508b	85	2894	2.3	+13 42	8.1	8.9	G5	7	5,3	5403m
36	9309	2.0	-40 56	9.6	9.6	A5	4	..	37602b	86	2895	2.3	+13 25	10.5	11.3	G5	3	..	5403m
37	10050	2.0	-42 29	6.00	6.5	B5	..	3,8	56,136	87	3304	2.3	+0 25	8.4	9.4	Ko	4	..	37729i
38	9651	2.0	-43 38	11.0	10.5	G5	1	..	37602b	88	3946	2.3	-2 12	9.1	9.5	F5	4	..	41558b
39	9655	2.0	-48 11	9.0	9.3	Fo	4	..	37909b	89	9967	2.3	-37 52	8.9	10.4	K5	2	..	21508b
40	9358	2.0	-49 37	9.3	9.9	F5	3	..	37909b	90	9531	2.3	-41 23	8.2	9.2	Ko	5	..	37602b
41	7883	2.0	-53 2	9.9	9.9	Ao	3	..	40421b	91	9892	2.3	-44 52	9.9	9.5	F5	4	..	37602b
42	5832	2.0	-58 53	9.0	9.1	A5	2	..	37618b	92	4844	2.3	-61 49	8.0	7.9	Ao	6	..	19901b
43	5651	2.0	-60 23	9.5	9.5	B8	2	..	37618b	93	2778	2.3	-67 50	9.9	10.0	A2	3	..	21824b
44	2732	2.0	-66 11	9.8	9.8	Ao	3	..	21824b	94	887	2.4	+66 18	6.09	6.09	Ao	10	..	38737i
45	1066	2.0	-77 20	9.7	9.7	Ao	1	..	40252b	95	2789	2.4	+10 41	7.9	8.2	Fo	3	..	37217i
46	498	2.0	-84 29	9.1	10.1	Ko	1	..	22577b	96	3812	2.4	-4 11	9.4	10.0	Go	1	..	41558b
47	2649	2.1	+35 8	7.80	8.87	K2	4	..	37800i	97	4011	2.4	-16 23	10.1	10.7	Go	1	..	40622b
48	2915	2.1	+2 44	6.80	7.87	K2	7	..	37729i	98	12078	2.4	-23 36	10.4	10.4	Go	2	..	40576b
49	4009	2.1	-17 1	9.7	10.0	Fo	2	..	40622b	99	11175	2.4	-28 13	9.1	9.6	A5	3	..	41209b
50	11173	2.1	-28 49	8.1	8.7	A5	3	..	41209b	100	10616	2.4	-32 54	8.7	9.0	F5	4	..	39299b

THE HENRY DRAPER CATALOGUE.

134000

15<sup>h</sup> 2<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	9969	m. 2.4	• 37 12	7.69	8.7	Ma	5	..	21508b	51	11874	m. 2.7	• 25 2	9.45	10.0	G5	2	..	40576b
2	9990	2.4	38 46	9.8	11.2	K2	1	..	21508b	52	1179	2.7	28 59	7.9	8.1	F5	7	..	41209b
3	9315	2.4	40 27	9.2	11.2	Ko	1	..	37602b	53	10619	2.7	32 35	10.2	10.3	F8	2	..	39299b
4	10057	2.4	42 20	10.3	10.3	Ao	3	..	37602b	54	10067	2.7	36 3	8.3	8.4	Ko	8	..	21508b
5	9896	2.4	44 26	10.3	10.1	Go	2	..	37602b	55	9996	2.7	38 9	7.05	7.2	A5	5	2,10	43316b
6	7894	2.4	53 6	10.5	10.5	A	1	..	40421b	56	9586	2.7	39 15	10.9	10.7	Ao	1	..	21508b
7	6311	2.4	53 33	10.0	10.1	A2	3	..	40421b	57	9899	2.7	44 57	10.3	10.4	K2	2	..	37602b
8	5833	2.4	58 42	9.4	9.4	B9	2	..	37618b	58	7898	2.7	52 29	11.1	11.1	A	1	..	40421b
9	3107	2.4	64 15	9.2	10.2	Ko	4	..	21824b	59	6602	2.7	57 3	9.1	10.1	Ko	3	..	37618b
10	3108	2.4	64 43	9.7	9.7	Ao	5	..	21824b	60	5656	2.7	61 3	6.43	6.7	G5	..	5,9	56,136
11	1717	2.4	72 30	8.4	8.9	F8	5	..	14146b	61	2627	2.8	+29 1	8.1	8.6	F8	2	..	38422i
12	2999	2.5	+ 9 21	7.02	8.20	K5	9	..	19011b	62	2776	2.8	+23 18	7.26	8.26	Ko	5	..	17783i
13	4123	2.5	14 13	7.9	7.9	Ao	7	..	41198b	63	2775	2.8	+22 57	7.7	8.5	G5	3	..	17783i
14	10722	2.5	26 19	8.2	9.3	K2	3	..	41209b	64	2924	2.8	+18 50	6.00	6.00	Ao	10	..	37217i
15	10618	2.5	32 23	10.0	9.8	F8	2	..	39299b	65	2736	2.8	+16 2	9.8	10.3	F8	4	..	5403m
16	10332	2.5	33 34	8.4	9.0	F8	5	..	39299b	66	3000	2.8	+ 9 37	6.69	7.47	G5	7	5,6 R	37745i
17	10058	2.5	42 49	10.3	11.0	Ao	2	..	37602b	67	3949	2.8	- 2 26	9.4	10.5	K2	1	..	41558b
18	9661	2.5	48 59	10.3	10.0	Ao	2	..	37909b	68	3730	2.8	- 3 23	7.74	8.81	K2	6	..	41558b
19	6922	2.5	57 32	9.2	9.5	B9	4	..	37618b	69	3816	2.8	- 4 39	9.4	9.9	F8	3	..	41558b
20	4402	2.5	62 54	8.4	8.4	Ao	5	..	21824b	70	10232	2.8	-28 5	9.5	10.0	F5	2	..	41209b
21	1966	2.5	70 14	9.18	9.1	B8	5	..	14146b	71	11742	2.8	-31 11	9.9	10.3	Ko	2	..	39299b
22	1759	2.5	71 45	10.1	10.2	A2	1	..	14146b	72	10069	2.8	-35 32	10.2	9.8	A3	5	..	21508b
23	1782	2.6	+56 4	7.55	8.05	F8	5	..	37804i	73	9937	2.8	-36 45	8.6	8.9	Fo	5	..	21508b
24	2140	2.6	+49 51	9.02	10.02	K	1	..	37573i	74	9998	2.8	-38 8	9.6	10.6	G5	2	..	21508b
25	2419	2.6	+44 20	9.0	9.4	F5	2	..	37640i	75	10062	2.8	-42 14	9.9	11.0	Ko	2	..	37602b
26	2896	2.6	+13 42	10.5	11.1	Go	3	..	5403m	76	9661	2.8	-43 22	10.3	10.5	Ko	1	..	37602b
27	2774	2.6	+10 55	7.74	8.74	Ko	3	..	37217i	77	9687	2.8	-45 14	11.6	10.1	Ao	2	..	37602b
28	3000	2.6	+ 6 39	8.1	9.1	Ko	5	..	37729i	78	9686	2.8	-45 16	10.6	9.8	A2	4	..	37602b
29	4012	2.6	-16 43	8.5	9.5	Ko	5	..	40622b	79	6321	2.8	-53 10	8.7	10.4	Ko	1	..	40421b
30	4036	2.6	-21 43	8.1	9.3	K2	5	..	40576b	80	2996	2.8	-65 52	10.0	10.0	B9	3	..	21824b
31	9994	2.6	-38 31	9.0	10.6	Ko	3	..	21508b	81	2257	2.8	-70 6	9.3	10.3	Ko	1	..	14146b
32	9122	2.6	-50 58	9.9	10.0	A3	2	..	40421b	82	1340	2.8	-74 32	7.8	9.0	K5	6	..	14146b
33	6360	2.6	-54 12	10.7	10.7	A	1	..	40421b	83	2873	2.9	+25 16	5.03	5.31	Fo	..	R	56,91
34	6359	2.6	-54 16	9.9	10.7	G5	1	..	40421b	84	2737	2.9	+16 4	8.9	9.4	F8	6	0,1	5403m
35	6393	2.6	-55 45	9.2	10.1	Ko	3	..	37618b	85	2791	2.9	+12 36	8.9	9.7	G5	5	..	5403m
36	5836	2.6	-59 20	10.0	10.0	Ao	2	..	37618b	86	3308	2.9	+ 0 19	8.6	8.9	F2	6	..	37729i
37	3522	2.6	-64 2	8.7	9.2	F8	5	..	21824b	87	2928	2.9	- 0 59	10.5	11.6	K2	1	..	41558b
38	2780	2.6	-67 20	7.4	7.4	Ao	7	..	36002b	88	3963	2.9	- 7 31	8.1	8.7	Go	4	2,6-	39089i
39	2782	2.6	-67 49	9.9	10.0	A2	2	..	21824b	89	4204	2.9	-13 4	8.3	9.5	K5	2	..	41198b
40	2256	2.6	-69 9	10.1	10.2	A2	2	..	14146b	90	3982	2.9	-18 51	8.9	9.9	Ko	3	..	40622b
41	1339	2.6	-74 42	9.8	9.9	A5	2	..	14146b	91	3981	2.9	-19 5	10.3	10.8	F8	1	..	40622b
42	499	2.6	-84 28	9.2	10.4	K5	1	..	22577b	92	9999	2.9	-38 34	10.2	10.7	Go	2	..	21508b
43	2834	2.7	+39 23	8.2	9.2	Ko	3	..	37640i	93	9589	2.9	-39 55	9.6	10.6	F8	4	..	21508b
44	2608	2.7	+36 50	6.30	6.72	F5	8	..	37800i	94	9328	2.9	-40 47	8.2	9.2	K2	6	..	21508b
45	2785	2.7	+22 24	8.3	8.9	Go	3	..	17783i	95	9126	2.9	-50 27	8.3	8.7	B9	7	..	37909b
46	3064	2.7	+20 14	8.7	9.9	K5	1	..	38340i	96	8794	2.9	-52 2	10.1	10.0	A3	4	..	40421b
47	3001	2.7	+ 5 52	6.22	7.00	G5	9	..	37729i	97	7905	2.9	-52 47	9.7	10.2	F8	3	..	40421b
48	3881	2.7	-11 40	7.60	8.38	G5	7	..	41198b	98	6323	2.9	-53 12	8.7	9.0	B9	5	..	40421b
49	3980	2.7	-19 9	9.7	9.8	F8	3	..	40622b	99	6363	2.9	-54 7	10.4	10.4	Ao	2	..	40421b
50	4030	2.7	-19 28	9.7	10.9	K2	1	..	40622b	100	6400	2.9	-55 10	9.34	9.8	Go	3	..	40421b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

134100

15<sup>h</sup> 2<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6399	2.9	-56 4	10.1	10.1	Ao	3	..	37618b	51	2819	3.2	+15 23	9.1	10.1	Ko	4	..	5403m
2	6604	2.9	-56 45	7.5	9.0	Ko	7	..	37618b	52	2839	3.2	+14 44	9.54	10.10	Go	5	..	5403m
3	6924	2.9	-57 31	9.9	10.7	G5	1	..	37618b	53	3885	3.2	-11 21	9.1	9.9	G5	2	..	41198b
4	5837	2.9	-59 43	8.5	8.3	A3	6	..	37618b	54	4039	3.2	-22 1	9.4	9.9	Ko	2	..	40576b
5	3525	2.9	-63 19	10.0	10.8	G5	2	..	21824b	55	11878	3.2	-24 41	8.3	8.7	F8	6	..	40576b
6	3110	2.9	-64 14	9.6	10.6	Ko	1	..	21824b	56	9979	3.2	-37 12	10.0	10.1	Go	2	..	21508b
7	2258	2.9	-70 6	9.7	10.3	Go	1	..	14146b	57	10069	3.2	-42 26	9.9	11.2	Ko	2	..	37602b
8	1968	2.9	-70 48	8.7	9.7	Ko	2	..	14146b	58	9903	3.2	-44 16	8.9	8.9	Ko	5	..	37602b
9	1071	2.9	-77 19	9.0	9.0	B9	4	..	40252b	59	9692	3.2	-45 37	7.7	8.7	K2	4	..	37909b
10	2255	3.0	+45 2	8.6	9.0	F5	2	..	3764oi	60	9372	3.2	-49 49	9.9	9.9	Go	1	..	37909b
11	2423	3.0	+44 9	8.6	9.6	Ko	1	..	3764oi	61	6325	3.2	-53 17	10.4	10.4	Ao	1	..	40421b
12	2574	3.0	+35 52	8.7	9.3	G	2	..	3780oi	62	5836	3.2	-58 22	9.2	10.0	G5	1	..	37618b
13	3001	3.0	+9 16	8.7	9.3	Go	5	5.7	11333b	63	5835	3.2	-59 2	10.0	10.0	Ao	2	..	37618b
14	11877	3.0	-24 56	9.00	9.3	Fo	4	..	40576b	64	5662	3.2	-61 5	8.8	8.5	Ao	3	..	19901b
15	11988	3.0	-30 18	8.5	8.3	Ao	5	..	41209b	65	1719	3.2	-72 30	8.7	9.1	F5	5	..	14146b
16	10201	3.0	-34 50	9.6	10.6	Ko	2	..	21508b	66	2565	3.3	+42 2	8.8	9.2	F5	2	..	3764oi
17	9977	3.0	-38 5	9.6	10.4	F5	2	..	21508b	67	2820	3.3	+15 29	10.5	11.1	Go	4	..	5403m
18	9330	3.0	-40 48	8.9	11.0	K2	1	..	37602b	68	2795	3.3	+10 44	8.1	9.1	Ko	1	..	37217i
19	9901	3.0	-44 11	9.0	8.3	B8	7	..	37602b	69	2969	3.3	+4 18	7.9	8.3	F5	5	..	37729i
20	9667	3.0	-48 52	9.1	9.6	Go	4	..	37909b	70	2918	3.3	+2 0	9.5	10.1	Go	2	..	37729i
21	8795	3.0	-51 47	10.1	10.0	B9	2	..	40421b	71	4033	3.3	-20 1	9.08	9.5	Fo	4	..	40622b
22	6324	3.0	-53 59	9.4	10.4	Ko	2	..	40421b	72	4040	3.3	-21 21	9.1	9.5	Fo	6	..	40576b
23	5661	3.0	-60 48	8.9	8.9	A	2	..	19750b	73	4042	3.3	-21 51	9.7	9.6	Go	2	..	40576b
24	3526	3.0	-63 27	8.6	9.6	Ko	3	..	21824b	74	4041	3.3	-21 52	9.7	9.6	F8	2	..	40576b
25	2733	3.0	-66 39	10.4	10.9	F8	2	..	21824b	75	10628	3.3	-32 6	9.2	9.5	Go	3	..	39299b
26	2259	3.0	-69 35	9.2	9.7	F8	3	..	14146b	76	10347	3.3	-33 10	10.6	10.4	A5	2	..	39299b
27	2260	3.0	-69 59	9.6	10.2	Go	2	..	14146b	77	9667	3.3	-43 17	10.3	10.1	F8	2	..	37602b
28	757	3.0	-80 8	8.9	9.7	G5	1	..	40252b	78	9668	3.3	-43 35	9.7	9.5	Fo	3	..	37602b
29	2603	3.1	+34 20	8.07	9.07	Ko	4	..	3780oi	79	9676	3.3	-48 37	8.3	9.0	G5	6	..	37909b
30	2824	3.1	+17 36	8.6	9.6	Ko	1	..	37217i	80	9374	3.3	-49 31	9.5	10.2	G5	1	..	37909b
31	2738	3.1	+16 37	10.1	10.7	Go	2	..	5403m	81	9375	3.3	-49 52	9.9	10.5	Ao	1	..	37909b
32	..	3.1	+15 25	..	..	F8	2	..	5403m	82	9129	3.3	-50 21	11.6	9.9	Ao	1	..	37909b
33	2838	3.1	+14 3	10.5	11.5	Ko	2	..	5403m	83	8803	3.3	-51 23	9.9	9.9	Ao	3	..	40421b
34	3029	3.1	+1 42	8.9	9.9	Ko	2	..	37729i	84	8802	3.3	-51 38	8.5	8.4	A2	8	..	40421b
35	2930	3.1	-0 41	8.5	9.7	K5	3	..	41558b	85	8801	3.3	-51 47	9.7	9.6	Fo	4	..	40421b
36	4157	3.1	-20 19	7.93	8.9	K2	4	..	40576b	86	3527	3.3	-63 56	9.8	9.8	Ao	3	..	21824b
37	4158	3.1	-21 9	9.9	10.1	F8	2	..	40622b	87	3113	3.3	-64 36	8.1	8.9	G5	7	..	21824b
38	3904	3.1	-22 41	7.99	9.8	Ma	3	..	40576b	88	2734	3.3	-66 45	9.8	9.8	B9	4	..	21824b
39	3905	3.1	-22 50	9.4	10.7	K5	1	..	40576b	89	1122	3.3	-75 10	7.52	9.0	K2	4	..	40252b
40	10730	3.1	-26 7	7.13	8.5	Ma	4	..	41209b	90	1730	3.4	+54 56	5.21	5.99	G5	10	..	37804i
41	10236	3.1	-27 59	7.61	8.4	A3	7	..	41209b	91	2855	3.4	+40 29	7.9	8.3	F5	6	..	3764oi
42	10624	3.1	-32 28	8.0	9.5	Ma	3	..	39299b	92	2726	3.4	+21 47	8.6	9.1	F8	2	..	17783i
43	10066	3.1	-42 39	11.0	11.4	Ko	1	..	37602b	93	3886	3.4	-11 25	7.9	8.2	F2	7	..	41198b
44	7909	3.1	-52 25	10.7	10.7	A	1	..	40421b	94	4205	3.4	-12 50	8.7	9.9	K5	1	..	41198b
45	5841	3.1	-59 50	9.7	9.7	B9	4	..	37618b	95	3985	3.4	-18 56	10.1	11.2	K2	1	..	40622b
46	5839	3.1	-59 52	9.2	10.0	K2	2	..	37618b	96	4159	3.4	-21 10	10.3	10.4	G5	1	..	40622b
47	3112	3.1	-64 33	9.1	10.1	Ko	2	..	21824b	97	10076	3.4	-35 29	6.98	8.0	Ko	8	..	39299b
48	..	3.1	-66 18	..	..	G5	1	..	21824b	98	9944	3.4	-36 22	9.6	10.7	K5	1	..	21508b
49	2323	3.1	-68 27	9.9	10.0	A3	4	..	21824b	99	10013	3.4	-38 22	11.3	10.7	Ao	2	..	21508b
50	2739	3.2	+15 52	9.8	10.3	F8	4	..	5403m	100	9554	3.4	-41 56	9.6	9.6	A2	3	..	37602b

## THE HENRY DRAPER CATALOGUE.

134200

15<sup>h</sup> 3<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	9906	m. 3.4	• 44 20	10.6	9.8	F8	2	..	37602b	51	4018	m. 3.7	• 5 15	8.80	9.58	G5	3	..	41558b
2	9743	3.4	-47 28	10.6	9.5	A2	3	..	37909b	52	4259	3.7	-17 38	8.5	9.0	F8	7	..	40622b
3	5838	3.4	-58 30	9.2	9.2	B9	3	..	37618b	53	11750	3.7	-31 20	9.1	9.8	F8	2	..	39299b
4	5839	3.4	-59 1	8.6	9.2	G	3	R	23021b	54	10352	3.7	-33 47	9.0	9.8	A5	3	..	39299b
5	5840	3.4	-59 1	9.6	9.7	A5	3	..	23021b	55	10020	3.7	-38 25	6.02	7.2	G5	7	0,10	43316b
6	3114	3.4	-64 15	10.1	10.1	Ao	3	..	21824b	56	6327	3.7	-53 46	9.1	9.8	Go	3	..	40421b
7	1971	3.4	-70 23	9.7	10.2	F8	1	..	14146b	57	6366	3.7	-54 28	10.4	10.4	B9	3	..	40421b
8	758	3.4	-80 52	8.6	10.0	Ma	1	..	40252b	58	6611	3.7	-57 6	9.0	9.2	B9	5	..	37618b
9	1550	3.5	+58 7	8.2	9.2	Ko	4	..	38764i	59	6930	3.7	-57 32	8.0	7.7	B8	8	..	37618b
10	2793	3.5	+12 34	9.1	9.1	Ao	5	2,2	5403m	60	5841	3.7	-59 3	8.7	8.8	F8	4	..	37618b
11	2984	3.5	+ 3 32	9.5	10.1	Go	3	..	37729i	61	5665	3.7	-60 13	9.4	9.4	B9	3	..	37618b
12	2933	3.5	- 0 36	8.5	9.1	Go	3	..	41558b	62	..	3.7	-66 36	..	..	Ko	1	..	21824b
13	4017	3.5	- 5 47	8.04	8.46	F5	5	3,5	13422b	63	1973	3.7	-70 18	8.6	9.7	K2	3	..	14146b
14	4081	3.5	-13 37	7.42	7.70	Fo	7	..	41198b	64	4260	3.8	-18 1	9.1	9.2	A2	5	..	40622b
15	10743	3.5	-25 18	8.9	9.0	G5	5	..	40576b	65	4044	3.8	-21 11	9.1	9.8	G5	4	..	40576b
16	10350	3.5	-33 26	8.7	8.6	A3	6	..	39299b	66	11560	3.8	-29 28	8.7	9.2	F8	2	..	41209b
17	10351	3.5	-34 1	8.9	9.9	Ko	3	..	39299b	67	9340	3.8	-40 38	8.4	7.7	Ao	3	..	43316b
18	9336	3.5	-40 48	7.8	7.6	B9	4	..	43316b	68	9563	3.8	-41 6	8.6	9.6	G5	3	..	21508b
19	9557	3.5	-41 25	10.0	10.1	Ao	3	..	37602b	69	9752	3.8	-47 16	9.3	9.8	Ko	1	..	37909b
20	9131	3.5	-50 22	9.3	10.2	Ko	1	..	37909b	70	6367	3.8	-54 58	5.56	7.5	G5	..	0,10	56,136
21	6365	3.5	-54 15	9.0	10.4	K2	2	..	40421b	71	6932	3.8	-58 5	10.1	10.4	F2	2	..	37618b
22	6407	3.5	-55 42	8.5	8.9	Fo	6	..	40421b	72	5842	3.8	-58 47	10.0	10.0	B9	2	..	37618b
23	1043	3.6	+64 49	8.50	8.50	Ao	4	..	38737i	73	5846	3.8	-59 19	8.8	8.8	B9	4	..	37618b
24	1850	3.6	+52 40	8.6	9.4	G5	5	..	37573i	74	5847	3.8	-59 23	9.0	8.8	Ao	6	..	37618b
25	2548	3.6	+32 38	7.9	7.9	B9	9	..	37800i	75	5844	3.8	-59 38	10.0	10.0	Ao	1	..	37618b
26	2977	3.6	+18 16	8.3	8.7	F5	3	..	38340i	76	3115	3.8	-64 10	7.3	7.4	A2	9	..	21824b
27	..	3.6	+15 48	..	..	Ko	1	..	5403m	77	..	3.8	-66 47	..	..	Ma	1	..	21824b
28	2797	3.6	+10 30	7.9	8.5	Go	5	..	37217i	78	2735	3.8	-66 58	9.5	9.8	F2	5	..	21824b
29	3031	3.6	+ 1 15	9.5	10.3	G5	2	..	37729i	79	2331	3.8	-68 10	9.7	10.3	Go	2	..	21824b
30	4141	3.6	- 6 12	8.6	8.9	F2	2	3,3-	39089i	80	1761	3.9	+53 41	8.0	8.3	Fo	5	..	37573i
31	11748	3.6	-31 46	8.0	8.7	F5	5	..	39299b	81	2564	3.9	+41 11	8.6	8.6	Ao	4	..	37640i
32	9601	3.6	-39 54	10.2	10.3	F2	5	..	21508b	82	2457	3.9	+27 5	8.0	9.0	Ko	4	..	17783i
33	9338	3.6	-40 37	8.7	9.2	F8	7	..	37602b	83	2728	3.9	+21 26	8.7	9.2	F8	2	..	17783i
34	9671	3.6	-43 39	9.0	10.1	K5	2	..	37602b	84	2798	3.9	+10 28	7.9	9.0	K2	5	..	19011b
35	9698	3.6	-45 45	9.7	9.8	Ko	2	..	37909b	85	2919	3.9	+ 2 3	7.8	8.1	Fo	7	..	37729i
36	9749	3.6	-47 14	8.9	9.5	K5	2	..	37909b	86	3965	3.9	- 7 53	9.4	10.0	Go	1	..	13422b
37	9379	3.6	-49 46	8.7	9.6	G5	4	..	37909b	87	10750	3.9	-25 44	9.7	9.6	F8	3	..	40576b
38	8808	3.6	-52 2	9.5	9.6	B9	6	..	40421b	88	9955	3.9	-36 10	8.6	8.6	Fo	7	..	21508b
39	7927	3.6	-52 12	10.1	10.2	A2	2	..	40421b	89	9954	3.9	-36 29	10.2	11.0	K5	1	..	21508b
40	7926	3.6	-52 22	10.8	10.8	A	1	..	40421b	90	9990	3.9	-37 6	8.2	8.1	A2	7	..	21508b
41	6408	3.6	-55 12	9.36	9.3	B9	6	..	40421b	91	9605	3.9	-39 52	9.8	10.1	Go	4	..	21508b
42	4407	3.6	-62 55	8.3	8.4	A2	6	..	21824b	92	9138	3.9	-50 7	9.63	9.6	Ao	4	..	37909b
43	1972	3.6	-70 52	8.9	8.9	B8	5	..	14146b	93	8814	3.9	-51 34	10.3	10.0	Ao	2	..	40421b
44	1343	3.6	-74 49	8.9	9.7	G5	2	..	14146b	94	6409	3.9	-55 47	10.4	10.4	Ao	3	..	40421b
45	2563	3.7	+41 21	8.7	9.7	Ko	2	..	37640i	95	6613	3.9	-56 27	10.3	10.4	A2	2	..	37618b
46	2629	3.7	+28 53	7.35	8.13	G5	6	..	17783i	96	6933	3.9	-58 0	10.6	10.7	A3	2	..	37618b
47	2727	3.7	+21 27	8.1	9.1	Ko	3	..	17783i	97	3116	3.9	-64 10	9.2	9.2	A	2	..	21824b
48	2926	3.7	+19 15	8.1	8.7	Go	4	R	38340i	98	..	3.9	-66 10	..	..	G5	2	..	21824b
49	2898	3.7	+13 28	8.7	9.8	K2	3	2,1	5403m	99	2736	3.9	-66 31	9.5	10.1	Go	4	..	21824b
50	3733	3.7	- 3 38	8.1	8.2	A2	8	..	41558b	100	2332	3.9	-69 4	9.0	9.1	A2	5	..	14146b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

134300

15<sup>h</sup> 4<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	1589	4.0	+60 12	7.51	7.85	F2	7	..	38764i	51	1762	4.3	+53 8	7.24	8.24	Ko	7	..	37573i
2	2566	4.0	+42 45	8.2	9.3	K2	3	..	37640i	52	2604	4.3	+34 5	6.89	7.89	Ko	8	..	37800i
3	2856	4.0	+40 19	9.5	10.1	Go	2	..	37640i	53	2929	4.3	+19 26	7.9	8.9	Ko	2	5,4-	37217i
4	2821	4.0	+15 16	9.1	9.5	F5	6	..	5403m	54	2822	4.3	+14 56	10.5	11.1	Go	2	..	5403m
5	2899	4.0	+12 52	7.16	7.24	A3	8	2,9	37217i	55	2840	4.3	+14 2	8.7	8.8	A2	5	1,1-	5403m
6	3026	4.0	- 2 12	8.45	9.63	K5	3	R	41558b	56	2934	4.3	- 1 1	8.9	10.0	K2	2	..	41558b
7	4017	4.0	-17 1	9.1	9.7	Go	4	..	40622b	57	3736	4.3	- 3 28	8.1	9.1	Ko	4	..	41558b
8	4045	4.0	-21 22	9.1	9.6	G5	4	..	40576b	58	3818	4.3	- 5 0	7.15	8.15	Ko	8	..	41558b
9	10359	4.0	-33 57	10.0	10.4	Ko	2	..	39299b	59	3968	4.3	- 7 30	8.8	9.8	Ko	3	..	13422b
10	9956	4.0	-36 22	10.4	10.7	Go	3	..	21508b	60	4038	4.3	-15 19	8.35	8.49	A5	6	..	40622b
11	9708	4.0	-45 41	9.1	9.0	G5	4	..	37909b	61	11758	4.3	-31 17	10.2	10.1	Go	1	..	39299b
12	9143	4.0	-50 31	10.1	10.0	Ao	5	..	40421b	62	9695	4.3	-48 29	9.9	9.9	Ao	2	..	37909b
13	7934	4.0	-52 10	7.2	8.1	Ko	8	..	40421b	63	6935	4.3	-57 12	9.7	10.8	K2	1	..	23021b
14	7937	4.0	-52 20	9.2	10.2	Ko	2	..	40421b	64	5850	4.3	-59 9	8.6	9.2	Go	3	..	37618b
15	7936	4.0	-52 29	9.9	10.0	A2	3	..	40421b	65	1976	4.3	-70 7	9.9	10.0	A5	2	..	14146b
16	7941	4.0	-52 59	9.1	9.4	Ao	4	..	40421b	66	2204	4.4	+47 16	8.8	9.8	Ko	2	..	38741i
17	6369	4.0	-54 21	9.2	10.1	Ko	3	..	40421b	67	2702	4.4	+31 19	8.6	9.6	Ko	1	..	38422i
18	1721	4.0	-73 3	9.3	9.6	F2	3	..	14146b	68	2841	4.4	+14 43	10.5	11.1	G	1	..	5403m
19	1046	4.1	+64 26	8.3	9.1	G5	2	..	38764i	69	2902	4.4	+13 48	9.5	10.3	G5	2	..	5403m
20	2656	4.1	+26 41	5.73	6.73	Kop	8	R	17783i	70	2970	4.4	+ 4 16	7.02	7.36	F2	7	..	37729i
21	2729	4.1	+21 13	8.9	10.1	K5	1	E	17783i	71	4206	4.4	-12 36	8.5	9.0	F8	5	..	41198b
22	2740	4.1	+16 21	9.1	9.6	F8	5	..	5403m	72	4262	4.4	-18 8	10.6	11.1	F8	1	..	40622b
23	2901	4.1	+13 37	6.07	7.07	Ko	8	0,10	37217i	73	10758	4.4	-25 57	5.94	7.6	Ko	..	0,10	56,136
24	2900	4.1	+13 3	10.5	11.3	G5	1	..	5403m	74	10248	4.4	-28 4	9.2	9.9	F8	1	..	41209b
25	2977	4.1	+ 5 34	8.5	8.8	F2	3	..	37729i	75	10025	4.4	-38 21	8.2	9.2	K2	5	..	21508b
26	4086	4.1	-13 11	9.2	10.0	G5	1	..	41198b	76	9714	4.4	-45 43	11.0	10.1	F5	1	..	37602b
27	4087	4.1	-13 46	9.7	10.5	G5	1	..	41198b	77	9385	4.4	-49 23	10.6	10.8	G5	1	..	37909b
28	4036	4.1	-20 9	7.18	7.8	Fo	..	5,9	56,91	78	6373	4.4	-54 35	9.4	10.4	Ko	3	..	40421b
29	12101	4.1	-23 36	6.81	8.0	K5	8	..	40576b	79	6619	4.4	-56 47	10.7	11.0	Fo	2	..	23021b
30	9678	4.1	-43 20	8.0	7.8	Go	8	..	37602b	80	6618	4.4	-57 0	10.6	10.7	A2	2	..	23021b
31	9677	4.1	-43 21	7.7	7.3	Go	..	0,9	56,136	81	2999	4.4	-65 15	9.7	10.3	Go	2	..	21824b
32	2786	4.1	-67 41	9.5	10.5	Ko	1	..	21824b	82	1731	4.5	+55 17	9.2	9.8	Go	1	..	38736i
33	994	4.1	-76 59	7.5	8.5	Ko	7	..	40252b	83	1852	4.5	+52 39	8.6	9.2	Go	3	..	37573i
34	783	4.2	+69 41	9.09	10.09	Ko	2	..	38737i	84	2858	4.5	+40 1	8.3	8.6	Fo	5	..	37640i
35	2876	4.2	+25 29	5.94	6.94	Ko	8	..	17783i	85	2778	4.5	+23 22	9.2	9.8	G	1	..	17783i
36	3003	4.2	+ 9 34	9.1	9.6	F8	2	0,2	19011b	86	2980	4.5	+ 8 19	8.9	9.9	Ko	2	..	19011b
37	3891	4.2	-11 12	9.1	9.4	F2	3	..	41198b	87	4044	4.5	-10 53	8.7	9.5	G5	3	..	41198b
38	3989	4.2	-18 34	9.9	11.1	K5	1	..	40622b	88	4263	4.5	-17 41	8.04	9.11	K2	5	..	40622b
39	3908	4.2	-22 21	8.5	8.4	F5	7	..	40576b	89	3991	4.5	-19 2	10.3	10.6	F	1	..	40622b
40	12000	4.2	-30 57	9.4	9.5	F8	4	..	39299b	90	4162	4.5	-20 11	9.9	10.2	A5	2	..	40622b
41	11756	4.2	-31 16	10.2	10.1	F2	1	..	39299b	91	10220	4.5	-34 41	8.9	9.8	F5	4	..	39299b
42	10083	4.2	-35 18	9.6	10.1	G5	3	..	39299b	92	9999	4.5	-37 45	9.2	9.2	Fo	5	..	21508b
43	9993	4.2	-37 37	8.6	9.0	Go	5	..	21508b	93	10000	4.5	-37 59	8.7	9.3	F2	5	..	21508b
44	8818	4.2	-51 50	9.2	10.0	Ko	2	..	40421b	94	9683	4.5	-43 40	9.7	9.5	Go	2	..	37602b
45	4411	4.2	-62 39	6.86	8.5	K2	6	..	19901b	95	9151	4.5	-50 41	7.9	8.4	A3	7	..	40421b
46	..	4.2	-66 42	..	..	K5	2	..	21824b	96	9149	4.5	-50 54	10.1	9.9	G5	3	..	40421b
47	2738	4.2	-66 49	10.3	10.3	Ao	3	..	21824b	97	6334	4.5	-54 3	10.7	10.7	Ao	2	..	40421b
48	2737	4.2	-67 0	8.7	8.7	B9	7	..	21824b	98	6620	4.5	-56 16	9.9	10.7	G5	2	..	37618b
49	2787	4.2	-67 22	9.5	9.5	B9	5	..	21824b	99	4413	4.5	-62 17	8.4	9.2	G5	2	..	19750b
50	710	4.3	+71 9	7.9	8.9	Ko	4	..	38732i	100	3002	4.5	-65 20	9.0	10.0	Ko	3	..	21824b

## THE HENRY DRAPER CATALOGUE.

134400

15<sup>h</sup> 4<sup>m</sup> 5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3001	4.5	-65 36	8.7	8.6	B5	6	..	21824b	51	4854	4.8	-61 16	9.1	9.5	K2	2	..	19901b
2	3000	4.5	-65 58	10.3	11.1	G5	2	..	21824b	52	3119	4.8	-64 40	9.7	9.8	A2	3	..	21824b
3	1977	4.5	-70 11	7.77	8.3	A3	8	..	14146b	53	2267	4.8	-69 42	var.	var.	Nb	..	0,3 R	56,136
4	1763	4.6	+53 23	7.54	8.54	Ko	5	..	37573i	54	2546	4.9	+33 39	7.26	8.33	K2	6	..	37800i
5	2823	4.6	+15 11	9.1	9.9	G5	4	..	5403m	55	2780	4.9	+23 11	8.9	10.0	K2	1	..	17783i
6	2904	4.6	+13 24	9.5	9.6	A2	3	..	5403m	56	2936	4.9	-0 29	7.68	7.96	Fo	7	..	37729i
7	3005	4.6	+8 58	8.9	10.0	K2	4	..	19011b	57	3972	4.9	-7 39	9.4	9.4	Ao	4	..	13422b
8	3036	4.6	+1 5	8.3	9.1	G5	6	..	37729i	58	4211	4.9	-12 56	8.7	9.1	F5	4	..	41198b
9	4146	4.6	-6 21	8.0	8.4	F5	5	3,4	13422b	59	4265	4.9	-17 51	9.7	10.7	Ko	1	..	40622b
10	3892	4.6	-11 47	9.1	9.9	G5	3	..	41198b	60	10007	4.9	-37 10	10.6	10.7	A	1	..	21508b
11	9619	4.6	-39 29	8.9	9.5	B8	6	..	21508b	61	10095	4.9	-42 21	8.7	8.7	Ao	7	..	37602b
12	9685	4.6	-43 27	8.3	7.6	Fo	7	..	37602b	62	9392	4.9	-49 10	9.7	10.2	Go	2	..	37909b
13	9152	4.6	-50 40	9.7	9.6	A2	2	..	40421b	63	8824	4.9	-51 53	9.9	10.2	B9	2	..	40421b
14	6622	4.6	-56 20	9.7	10.7	Ko	1	..	37618b	64	6336	4.9	-54 0	9.2	9.5	B9	6	..	40421b
15	5845	4.6	-58 17	9.3	10.3	Ko	1	..	37618b	65	6377	4.9	-54 32	10.4	10.4	Ao	3	..	40421b
16	5673	4.6	-60 9	9.1	9.2	A5	3	..	37618b	66	6939	4.9	-57 31	10.6	10.7	A2	2	..	23021b
17	1385	4.7	+62 12	8.8	9.1	Fo	3	..	38764i	67	5674	4.9	-60 26	9.7	9.7	Ao	2	..	37618b
18	1733	4.7	+55 39	9.4	10.2	G5	1	..	38736i	68	4856	4.9	-61 22	6.10	8.8	K2	6	..	19901b
19	2741	4.7	+16 2	9.8	10.3	F8	3	..	5403m	69	3120	4.9	-64 17	9.2	9.8	Go	2	..	21824b
20	2825	4.7	+14 53	10.5	11.6	K2	2	..	5403m	70	3121	4.9	-64 22	8.8	9.6	G5	4	..	21824b
21	3028	4.7	-2 2	8.82	10.00	K5	2	..	41558b	71	2795	4.9	-67 8	9.8	9.8	Ao	4	..	21824b
22	4040	4.7	-19 49	9.9	10.4	G5	1	..	40622b	72	2794	4.9	-67 22	9.7	10.8	K2	2	..	21824b
23	10646	4.7	-32 19	8.2	9.5	Ko	4	..	39299b	73	889	5.0	+66 7	8.6	8.6	Ao	6	..	38737i
24	10091	4.7	-35 26	9.2	10.1	Ko	3	..	39299b	74	2611	5.0	+37 42	8.3	9.1	G5	4	..	37800i
25	10032	4.7	-38 26	10.0	11.0	Go	2	..	21508b	75	2616	5.0	+30 43	8.5	9.0	F8	3	..	38422i
26	9347	4.7	-40 20	7.83	8.3	F2	3	2,10	43316b	76	2742	5.0	+16 44	10.5	11.3	G5	2	..	5403m
27	9686	4.7	-43 53	9.7	10.1	Ko	1	..	37602b	77	9590	5.0	-41 49	8.2	9.3	B9	6	..	37602b
28	9920	4.7	-44 40	9.9	9.2	A5	3	..	37602b	78	10097	5.0	-42 52	8.9	9.5	Ko	4	..	37602b
29	9387	4.7	-49 16	8.1	9.6	Ko	4	..	37909b	79	9864	5.0	-46 23	8.3	8.9	Ma	5	..	37909b
30	6418	4.7	-55 16	9.72	10.4	G5	2	..	40421b	80	9768	5.0	-47 12	8.6	8.3	A3	6	..	37909b
31	6937	4.7	-58 0	9.1	10.1	Ao	4	..	37618b	81	9704	5.0	-48 21	4.14	4.12	B9	..	0,8 R	28,209
32	4415	4.7	-62 55	9.3	9.3	Ao	1	R	19750b	82	9705	5.0	-48 22	6.04	6.04	Ao	..	..	28,209
33	3118	4.7	-64 44	10.3	10.3	A	2	..	21824b	83	8827	5.0	-51 44	7.9	8.4	F8	4	..	43300b
34	3003	4.7	-65 58	10.9	11.0	A3	3	..	21824b	84	6337	5.0	-53 17	8.3	8.4	B9	7	..	40421b
35	2789	4.7	-67 19	10.8	10.8	B9	1	..	21824b	85	6378	5.0	-54 34	10.7	10.7	A	1	..	40421b
36	2791	4.7	-67 37	9.5	10.5	Ko	4	..	21824b	86	6626	5.0	-56 6	8.8	9.6	F8	4	..	40421b
37	90	4.8	+88 24	8.97	9.97	Ko	2	..	37793i	87	5855	5.0	-59 8	8.5	9.5	G5	3	..	37618b
38	2971	4.8	+4 4	7.7	8.7	Ko	4	..	37729i	88	4416	5.0	-62 53	9.1	9.5	F5	2	R	19750b
39	4042	4.8	-15 53	9.4	10.0	Go	4	R	40622b	89	2796	5.0	-67 35	9.7	10.5	G5	2	..	21824b
40	4041	4.8	-15 59	9.9	10.7	G5	2	R	40622b	90	2268	5.0	-69 39	9.3	10.3	K	1	..	14146b
41	10764	4.8	-25 36	8.9	9.6	Ko	4	..	40576b	91	2269	5.0	-69 55	9.3	10.3	Ko	1	..	14146b
42	9624	4.8	-39 7	9.2	10.3	G5	4	..	21508b	92	464	5.1	+79 51	8.95	9.73	G5	2	..	37809i
43	9921	4.8	-44 54	7.06	8.1	Ko	7	..	37602b	93	2146	5.1	+50 27	6.27	7.27	Ko	8	..	37573i
44	9922	4.8	-44 54	6.40	7.7	Ko	..	0,8	28,209	94	2548	5.1	+33 27	8.5	9.5	Ko	3	..	37800i
45	6335	4.8	-53 42	9.2	9.8	Ao	4	..	40421b	95	2877	5.1	+25 3	7.25	7.67	F5	5	..	17783i
46	6417	4.8	-55 34	10.4	10.4	Ao	2	..	40421b	96	2826	5.1	+15 28	10.1	10.7	Go	3	..	5403m
47	6420	4.8	-55 47	9.7	10.7	Ko	1	..	37618b	97	2988	5.1	+3 39	9.1	9.9	G5	2	..	37729i
48	6419	4.8	-56 3	9.1	9.3	Ao	4	..	40421b	98	2937	5.1	-0 41	8.3	8.3	Ao	5	..	37729i
49	5851	4.8	-59 43	7.2	8.8	G5	6	..	37618b	99	4047	5.1	-21 41	9.7	10.1	A5	3	..	40576b
50	5852	4.8	-60 1	7.44	8.5	F8	8	..	37618b	100	12110	5.1	-23 11	10.4	10.9	K5	1	..	40576b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

134500

15<sup>h</sup> 5<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	12111	5.1	-23 39	10.4	9.9	Fo	2	..	40576b	51	2743	5.4	+16 27	10.5	11.1	G	2	..	5403m
2	10100	5.1	-35 37	10.2	10.4	F8	2	..	39299b	52	4147	5.4	-7 10	8.5	9.1	Go	6	5.4	13422b
3	10012	5.1	-37 8	9.2	9.3	F5	4	..	21508b	53	11774	5.4	-31 46	9.7	10.1	Ko	3	..	39299b
4	10011	5.1	-37 40	9.6	9.8	Go	4	..	21508b	54	10231	5.4	-34 28	9.6	10.1	A5	2	..	39299b
5	8830	5.1	-51 43	3.50	4.50	Ko	..	5.9 R	28,209	55	9968	5.4	-36 54	8.2	9.9	K2	4	..	21508b
6	6379	5.1	-54 56	var.	var.	Ao	3	R	40421b	56	10042	5.4	-39 0	9.2	9.5	Ko	4	..	21508b
7	6628	5.1	-56 25	9.2	9.8	A2	3	..	40421b	57	9928	5.4	-44 39	8.4	7.7	B9	8	..	37602b
8	6627	5.1	-56 33	8.8	9.5	B9	4	..	40421b	58	9719	5.4	-45 58	10.3	10.5	K5	1	..	37602b
9	5854	5.1	-59 25	9.0	9.7	F2	2	..	37618b	59	9164	5.4	-50 53	8.9	9.0	Fo	5	..	40421b
10	5853	5.1	-59 43	9.2	9.2	Ao	3	..	37618b	60	8836	5.4	-51 12	9.2	9.3	B9	5	..	40421b
11	2797	5.1	-67 14	9.3	9.6	Fo	5	..	21824b	61	6422	5.4	-55 56	10.3	10.4	A2	2	..	37618b
12	2270	5.1	-69 35	9.9	10.0	A2	2	..	14146b	62	5677	5.4	-60 35	8.9	9.5	Go	2	..	37618b
13	1772	5.1	-71 58	9.9	10.0	A2	2	..	14146b	63	3532	5.4	-63 26	9.7	9.8	A3	2	..	21824b
14	1629	5.2	+58 52	9.2	9.7	F8	2	..	38764i	64	..	5.4	-66 47	..	..	K2	2	..	21824b
15	3898	5.2	-11 52	8.9	9.9	Ko	2	..	41198b	65	2273	5.4	-69 25	9.4	10.0	Go	2	..	14146b
16	4267	5.2	-17 24	9.7	10.8	K2	2	..	40622b	66	1984	5.4	-70 20	9.0	10.0	Ko	2	..	14146b
17	10652	5.2	-33 4	10.4	10.3	F5	1	..	39299b	67	1773	5.4	-72 2	8.1	9.5	Ma	4	..	14146b
18	10101	5.2	-35 52	8.6	9.2	A3	4	..	39299b	68	1590	5.5	+60 18	9.4	10.2	G5	2	..	38764i
19	9355	5.2	-41 4	9.6	9.9	Fo	5	..	37602b	69	2745	5.5	+16 0	8.7	9.8	K2	5	..	5403m
20	9868	5.2	-46 14	11.6	10.1	Ao	2	..	37602b	70	3899	5.5	-11 52	9.4	10.0	Go	2	..	41198b
21	9708	5.2	-48 32	9.3	9.6	F2	4	..	37909b	71	4044	5.5	-15 54	9.1	10.1	Ko	2	..	40622b
22	9707	5.2	-49 3	10.1	10.0	B8	4	..	37909b	72	10749	5.5	-26 57	9.1	10.4	K2	1	..	41209b
23	9396	5.2	-49 44	9.7	10.7	K2	1	..	37909b	73	10748	5.5	-27 6	9.2	9.6	G5	2	..	41209b
24	8831	5.2	-52 3	9.1	9.3	Ao	4	..	40421b	74	10368	5.5	-33 16	7.28	8.0	G5	9	..	39299b
25	6339	5.2	-53 43	8.9	10.7	K2	1	..	40421b	75	10367	5.5	-34 0	10.4	10.6	G5	1	..	39299b
26	6943	5.2	-57 54	8.8	9.3	B8	4	..	37618b	76	10233	5.5	-35 0	9.68	10.1	A2	3	..	39299b
27	4420	5.2	-62 34	8.0	8.5	F8	4	..	19901b	77	10109	5.5	-42 29	9.5	9.3	Ao	4	..	37602b
28	3529	5.2	-63 31	7.8	9.2	Mb	5	..	21824b	78	9693	5.5	-43 35	10.6	10.1	Go	1	..	37602b
29	2342	5.2	-69 5	9.7	10.0	Fo	2	..	14146b	79	9406	5.5	-49 31	9.2	9.9	G5	3	..	37909b
30	816	5.2	-79 56	8.6	8.9	F2	4	..	40253b	80	6384	5.5	-54 11	8.2	9.3	Ko	5	..	40421b
31	2206	5.3	+46 52	8.6	9.7	K2	1	..	38741i	81	1490	5.5	-73 28	9.7	10.5	G5	2	..	14146b
32	2842	5.3	+13 51	10.5	11.5	Ko	2	..	5403m	82	1078	5.5	-77 27	9.4	9.4	Ao	2	..	40252b
33	2795	5.3	+12 44	9.3	9.9	Go	4	5.1	5403m	83	972	5.5	-78 6	6.6	6.9	Fo	6	..	13442b
34	2973	5.3	+4 30	8.3	8.8	F8	5	..	37729i	84	602	5.6	+74 16	7.15	7.15	Ao	7	..	37809i
35	4045	5.3	-10 33	9.4	10.6	K5	1	..	41198b	85	670	5.6	+72 16	7.60	8.67	K2	5	..	38732i
36	3993	5.3	-18 13	9.7	9.7	Ao	4	..	40622b	86	1766	5.6	+53 39	7.25	7.53	Fo	8	..	37573i
37	4048	5.3	-21 42	8.7	9.0	Fo	7	..	40576b	87	2467	5.6	+43 13	8.8	9.2	F5	4	..	37640i
38	11771	5.3	-31 18	9.9	10.4	Ko	1	..	39299b	88	2837	5.6	+39 49	8.72	8.72	Ao	3	0.4	37800i
39	9629	5.3	-39 10	10.0	11.0	F8	2	..	21508b	89	2795	5.6	+22 16	8.6	8.6	Ao	3	..	17783i
40	9357	5.3	-40 37	9.6	9.6	Ao	5	..	21508b	90	4020	5.6	-16 35	7.9	7.9	Ao	8	..	40622b
41	9712	5.3	-48 12	9.3	9.9	Ko	2	..	37909b	91	10235	5.6	-34 22	8.2	8.1	B8	7	..	39299b
42	9399	5.3	-49 43	9.7	9.9	B9	5	..	37909b	92	10106	5.6	-35 7	8.13	9.8	K5	3	..	39299b
43	9398	5.3	-50 3	10.1	9.9	B9	3	..	37909b	93	10020	5.6	-38 1	9.2	9.5	F5	4	..	21508b
44	6946	5.3	-57 18	10.7	10.7	Ao	2	..	23021b	94	9365	5.6	-40 17	9.6	10.6	A3	3	..	21508b
45	5851	5.3	-58 28	9.2	9.2	Ao	3	..	37618b	95	9364	5.6	-40 54	9.8	10.3	A2	4	..	37602b
46	2798	5.3	-67 53	9.7	9.7	Ao	6	..	21824b	96	9723	5.6	-45 22	11.6	10.4	Ao	1	..	37602b
47	2272	5.3	-69 14	9.7	9.8	A3	2	..	14146b	97	9779	5.6	-47 51	6.32	7.0	Ko	8	..	37909b
48	1076	5.3	-77 30	9.3	9.3	Ao	3	..	40252b	98	8840	5.6	-51 39	7.9	8.4	B8	7	..	40421b
49	2980	5.4	+18 6	8.7	9.5	G5	1	E	38340i	99	6345	5.6	-54 0	9.4	10.4	Ko	1	..	40421b
50	2744	5.4	+16 34	10.5	11.1	G	2	..	5403m	100	6386	5.6	-54 23	10.7	10.7	Ao	2	..	40421b



## THE HENRY DRAPER CATALOGUE.

134600

15<sup>h</sup> 5<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6385	5.6	-54 32	9.8	9.8	Ao	4	..	40421b	51	9975	5.9	-36 29	8.9	10.1	G5	3	..	21508b
2	6630	5.6	-56 15	10.8	10.8	Ao	2	..	23021b	52	9973	5.9	-36 58	8.7	8.9	F5	6	..	21508b
3	5853	5.6	-58 50	9.2	9.4	Go	2	..	37618b	53	9636	5.9	-39 36	9.6	10.1	G5	3	..	21508b
4	..	5.6	-67 33	..	..	Ko	3	..	21824b	54	9373	5.9	-40 36	9.6	9.8	A3	4	..	21508b
5	2799	5.6	-67 43	8.1	8.9	G5	7	..	21824b	55	9874	5.9	-46 31	8.9	9.2	G5	3	..	37909b
6	1985	5.6	-70 9	6.98	8.2	Ko	..	5,8	56,136	56	5681	5.9	-60 7	8.8	8.8	Ao	5	..	37618b
7	1552	5.7	+58 2	7.80	8.98	K5	3	..	38764i	57	5680	5.9	-60 58	6.54	6.2	B3	..	2,7-	56,136
8	2358	5.7	+49 44	8.67	9.67	Ko	1	..	38741i	58	1981	6.0	+51 25	8.1	9.1	Ko	4	0,2	37573i
9	2908	5.7	+7 5	9.8	9.9	A2	2	..	11333b	59	2658	6.0	+26 8	8.6	9.4	G5	2	..	17783i
10	3313	5.7	+0 31	9.0	10.1	K2	1	..	41558b	60	2827	6.0	+14 52	10.5	11.5	Ko	2	..	5403m
11	11902	5.7	-24 17	9.9	9.9	Go	2	..	40576b	61	4139	6.0	-14 21	9.7	10.1	F5	1	..	41198b
12	12021	5.7	-31 5	9.4	9.8	G5	3	..	39299b	62	4268	6.0	-17 25	10.1	10.5	F5	2	..	40622b
13	10658	5.7	-32 28	8.9	7.7	A	7	R	39299b	63	11905	6.0	-24 16	9.9	9.6	F8	3	..	40576b
14	..	5.7	-32 28	..	..	A	..	..	..	64	12025	6.0	-30 31	7.72	7.7	G5	6	..	41209b
15	10237	5.7	-35 2	9.43	9.8	Go	2	..	39299b	65	10663	6.0	-33 5	10.0	10.1	F8	2	..	39299b
16	10049	5.7	-38 48	8.2	8.9	Ko	5	..	21508b	66	10374	6.0	-34 0	9.6	10.7	Ko	1	..	39299b
17	9929	5.7	-45 2	10.6	10.1	Ao	2	..	37602b	67	10027	6.0	-37 8	9.6	9.8	F8	4	..	21508b
18	6346	5.7	-53 51	10.7	10.7	Ao	1	..	40421b	68	9605	6.0	-41 46	9.6	10.6	K2	1	..	37602b
19	6631	5.7	-56 52	10.3	10.8	F8	1	..	23021b	69	9718	6.0	-48 42	10.3	10.0	F5	2	..	37909b
20	3123	5.7	-64 41	10.1	10.1	Ao	4	..	21824b	70	9411	6.0	-49 35	8.5	9.0	A3	7	..	37909b
21	2740	5.7	-66 25	10.1	10.1	B9	4	..	21824b	71	9177	6.0	-50 22	10.1	9.9	B8	2	..	37909b
22	2800	5.7	-67 52	9.3	10.3	Ko	3	..	21824b	72	6428	6.0	-55 21	7.53	8.0	Go	8	..	40421b
23	2347	5.7	-68 23	9.4	9.4	Ao	4	..	21824b	73	6634	6.0	-56 30	8.4	9.5	A5	5	..	40421b
24	973	5.7	-78 39	8.1	9.1	Ko	2	..	40252b	74	6949	6.0	-57 20	10.0	10.8	G5	1	..	23021b
25	2930	5.8	+19 22	8.1	8.9	G5	2	E	38340i	75	3124	6.0	-64 6	8.8	9.8	Ko	3	..	21824b
26	..	5.8	+15 51	..	..	F8	1	..	5403m	76	1778	6.0	-71 55	9.5	10.6	K2	1	..	14146b
27	2796	5.8	+12 3	7.09	8.44	Ma	4	..	37217i	77	1497	6.0	-73 12	10.1	10.2	A3	2	..	14146b
28	2989	5.8	+3 4	9.1	9.7	G	1	..	37729i	78	571	6.1	+77 45	8.0	8.5	F8	6	0,6	37809i
29	3740	5.8	-3 11	8.6	9.0	F5	4	..	41558b	79	2838	6.1	+39 21	7.92	8.42	F8	4	0,4	37800i
30	4214	5.8	-12 41	7.54	8.54	Ko	5	..	41198b	80	2461	6.1	+27 48	8.1	9.1	Ko	4	..	17783i
31	4163	5.8	-20 18	9.78	10.4	Go	1	..	40622b	81	2909	6.1	+7 42	8.1	9.1	Ko	6	..	19011b
32	4164	5.8	-20 55	8.9	9.5	F5	5	..	40576b	82	4270	6.1	-17 22	9.7	10.5	G5	2	..	40622b
33	12121	5.8	-23 15	10.6	10.7	A	1	..	40576b	83	11907	6.1	-25 4	10.2	9.6	F5	2	..	40576b
34	10109	5.8	-35 18	9.5	11.0	K5	1	..	39299b	84	10375	6.1	-33 12	9.8	10.4	F2	3	..	39299b
35	10111	5.8	-35 32	9.2	10.1	Ko	2	..	39299b	85	10242	6.1	-34 35	7.7	7.9	Ao	5	0,8	43316b
36	9972	5.8	-36 44	9.8	10.4	Ko	1	..	21508b	86	9640	6.1	-39 13	9.5	11.0	K2	1	..	21508b
37	10025	5.8	-37 53	8.9	10.1	G5	3	..	21508b	87	9932	6.1	-44 8	4.92	4.75	B3	..	0,9R	28,209
38	9602	5.8	-41 31	9.6	10.7	Ko	2	..	37602b	88	9720	6.1	-48 24	9.0	9.9	K2	3	..	37909b
39	9872	5.8	-46 23	10.3	9.0	B9	4	..	37909b	89	3535	6.1	-63 16	9.6	9.6	Ao	2	..	21824b
40	9782	5.8	-47 35	10.1	9.5	A3	2	..	37909b	90	3125	6.1	-64 57	9.3	9.3	Ao	5	..	21824b
41	8845	5.8	-51 18	9.3	9.6	F2	3	..	40421b	91	3006	6.1	-65 51	9.2	9.8	Go	5	..	21824b
42	8844	5.8	-51 36	7.8	9.0	K2	4	..	40421b	92	2741	6.1	-66 31	8.2	9.2	Ko	8	..	21824b
43	7987	5.8	-52 25	9.3	9.3	Ao	5	..	40421b	93	2654	6.2	+35 8	8.7	9.1	F5	3	..	37800i
44	548	5.9	+76 45	8.2	9.2	Ko	4	..	37809i	94	2879	6.2	+25 50	8.2	8.7	F8	3	..	17783i
45	1036	5.9	+65 6	7.30	8.30	Ko	6	..	38737i	95	2782	6.2	+23 2	8.7	9.7	Ko	2	..	17783i
46	1167	5.9	+63 30	6.75	7.09	F2	9	..	38764i	96	2828	6.2	+14 54	10.5	11.1	G	2	..	5403m
47	2569	5.9	+42 5	9.2	9.8	G	2	..	37640i	97	..	6.2	+13 17	..	..	F8	2	..	5403m
48	4050	5.9	-10 40	8.9	9.9	Ko	2	..	41198b	98	4082	6.2	-10 7	8.56	9.63	K2	2	..	41198b
49	4049	5.9	-11 5	7.9	8.9	Ko	5	..	41198b	99	4140	6.2	-14 51	9.1	10.1	Ko	4	..	40622b
50	9974	5.9	-36 15	8.7	8.9	A2	6	..	21508b	100	4047	6.2	-15 47	6.80	7.80	Ko	9	..	40622b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

134700

15<sup>h</sup> 6<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4025	6.2	-16 14	7.7	8.2	F8	7	..	40622b	51	..	6.5	+15 18	..	..	G5	1	..	5403m
2	10115	6.2	-35 32	8.3	8.7	G5	7	..	39299b	52	2906	6.5	+13 24	8.6	9.7	K2	4	2,2	5403m
3	9980	6.2	-36 15	10.4	10.1	F8	2	..	21508b	53	2991	6.5	+3 35	8.55	9.55	Ko	3	..	37729i
4	9933	6.2	-44 35	8.0	8.3	G5	6	..	37602b	54	2992	6.5	+3 13	7.9	8.0	A5	8	..	37729i
5	8853	6.2	-51 14	11.6	11.1	A	1	..	40421b	55	3828	6.5	-5 6	8.05	8.05	Ao	7	R	41558b
6	7993	6.2	-52 46	8.8	9.3	Ko	4	..	40421b	56	3918	6.5	-8 27	7.9	9.1	K5	3	..	13422b
7	5855	6.2	-58 15	8.9	9.4	F8	1	..	37618b	57	4142	6.5	-14 45	10.3	10.7	F5	2	..	40622b
8	3536	6.2	-63 16	7.4	8.4	Ko	6	..	21824b	58	3997	6.5	-18 44	6.77	7.77	Ko	..	2,8	56,91
9	3007	6.2	-65 47	8.3	8.3	Ao	10	..	21824b	59	4047	6.5	-19 25	4.66	4.66	Aop	..	R	56,91
10	2353	6.2	-68 15	8.9	9.7	G5	4	..	21824b	60	3911	6.5	-22 58	9.7	10.1	A5	4	..	40576b
11	221	6.3	+85 54	8.3	8.8	F8	6	..	37793i	61	10062	6.5	-38 20	9.0	9.3	F8	4	..	21508b
12	2620	6.3	+38 5	8.0	8.1	A2	5	..	37800i	62	9429	6.5	-49 7	9.5	10.0	Go	2	..	37909b
13	2880	6.3	+25 39	9.5	10.5	Ko	1	..	17783i	63	8001	6.5	-52 25	9.6	9.6	Ao	3	..	40421b
14	2843	6.3	+14 39	9.0	9.1	A5	7	5,2-	5403m	64	6397	6.5	-54 16	8.6	8.7	B9	7	..	40421b
15	2905	6.3	+13 29	9.1	9.7	Go	4	5,1	5403m	65	6954	6.5	-57 46	10.2	10.7	F8	1	..	37618b
16	2799	6.3	+12 50	9.3	10.1	G5	3	..	5403m	66	5858	6.5	-58 9	9.0	9.4	Ko	3	..	37618b
17	4100	6.3	-13 48	9.9	10.5	Go	1	..	41198b	67	5857	6.5	-58 57	10.2	10.3	A5	1	..	37618b
18	4026	6.3	-16 32	10.6	11.0	F5	3	..	40622b	68	3008	6.5	-65 39	9.6	9.6	Ao	6	..	21824b
19	4167	6.3	-20 44	9.4	10.1	G5	2	..	40576b	69	1988	6.5	-70 7	9.1	9.7	Go	1	..	14146b
20	4050	6.3	-21 59	9.7	10.7	K5	1	..	40576b	70	1498	6.5	-73 55	9.5	10.5	Ko	1	..	14146b
21	12028	6.3	-30 47	10.2	10.4	K2	1	..	39299b	71	2261	6.6	+45 31	9.1	9.7	G	1	..	37640i
22	10381	6.3	-33 13	9.5	10.4	K5	1	..	39299b	72	2550	6.6	+33 28	7.10	8.10	Ko	8	..	37800i
23	9643	6.3	-39 34	10.4	11.0	Ko	1	..	21508b	73	2844	6.6	+14 4	10.5	11.3	G5	2	..	5403m
24	9380	6.3	-40 8	9.6	9.6	Ao	6	..	21508b	74	4216	6.6	-12 52	9.1	10.1	Ko	1	..	41198b
25	9381	6.3	-41 5	10.2	10.1	B9	3	..	37602b	75	10246	6.6	-34 29	9.3	9.9	Ao	2	..	39299b
26	10124	6.3	-42 26	9.1	9.9	Ko	3	..	37602b	76	9982	6.6	-36 35	10.0	10.1	Ao	3	..	21508b
27	9725	6.3	-48 56	9.2	9.9	G5	2	..	37909b	77	10063	6.6	-38 28	8.2	8.9	F2	6	..	21508b
28	8856	6.3	-51 8	10.6	10.5	A	1	..	40421b	78	9649	6.6	-39 35	10.4	10.6	Go	2	..	21508b
29	8855	6.3	-51 58	9.2	10.0	G5	2	..	40421b	79	9650	6.6	-39 56	10.2	10.6	Go	2	..	21508b
30	6953	6.3	-57 21	10.0	10.8	G5	2	..	23021b	80	9787	6.6	-48 4	10.3	9.2	Ao	4	..	37909b
31	5856	6.3	-58 53	9.2	9.7	Ko	3	..	37618b	81	9182	6.6	-50 49	10.1	10.8	G5	1	..	40421b
32	4863	6.3	-61 35	8.8	9.5	Ko	1	..	19750b	82	8866	6.6	-51 44	8.7	8.7	A2	6	..	40421b
33	4423	6.3	-62 24	8.5	8.5	B8	3	..	19901b	83	6354	6.6	-53 46	9.2	10.1	B	3	R	40421b
34	3127	6.3	-64 14	8.9	8.9	Ao	7	..	21824b	84	6400	6.6	-54 54	9.1	9.2	Ao	6	..	40421b
35	2281	6.3	-70 2	6.68	7.6	Fo	..	5,8	56,136	85	5865	6.6	-59 22	7.0	8.8	K5	7	..	37618b
36	1987	6.3	-70 44	9.2	10.2	Ko	2	..	14146b	86	1783	6.6	-71 7	9.3	10.3	Ko	1	..	14146b
37	3030	6.4	-1 53	7.02	7.30	Fo	9	..	41558b	87	999	6.6	-76 29	8.9	9.7	G5	1	..	40252b
38	4029	6.4	-5 28	8.9	9.9	Ko	2	..	41558b	88	1554	6.7	+57 30	7.19	7.69	F8	6	..	38764i
39	..	6.4	-5 38	var.	var.	Md	..	R	M	89	1857	6.7	+52 4	8.6	8.7	A2	5	..	37573i
40	4272	6.4	-17 49	9.2	10.2	Ko	2	..	40622b	90	2262	6.7	+45 14	8.2	8.7	F8	2	..	37640i
41	10779	6.4	-25 15	9.9	10.5	G5	1	..	40576b	91	2613	6.7	+37 24	8.9	9.5	Go	2	..	37800i
42	10032	6.4	-37 9	7.62	8.7	Ma	6	..	21508b	92	2633	6.7	+29 37	7.11	7.53	F5	7	R	17783i
43	10033	6.4	-37 44	Neb.	Neb.	Pe	..	R	76,22	93	3006	6.7	+8 54	8.1	8.2	A3p	7	R	37745i
44	9384	6.4	-40 31	11.1	9.9	F8	5	..	21508b	94	3974	6.7	-7 39	8.7	9.9	K5	1	..	13422b
45	10125	6.4	-42 46	10.3	10.4	Ko	2	..	37602b	95	4102	6.7	-14 0	8.3	9.3	Ko	3	..	41198b
46	10126	6.4	-43 6	10.1	10.6	F8	2	..	37602b	96	4048	6.7	-16 2	7.28	7.26	B9	9	..	40622b
47	9419	6.4	-50 2	9.46	10.0	K2	2	..	37909b	97	4049	6.7	-20 10	10.1	10.7	F8	1	..	40622b
48	1499	6.4	-73 18	8.7	9.0	Fo	5	..	14146b	98	11796	6.7	-31 27	10.4	9.9	Ao	3	..	39299b
49	572	6.5	+77 2	8.6	9.4	G5	5	..	37809i	99	9984	6.7	-36 52	7.8	7.1	A3	5	..	43316b
50	1592	6.5	+60 34	9.4	10.5	K2	1	..	38764i	100	8868	6.7	-51 40	9.5	9.3	Ao	4	..	40421b

THE HENRY DRAPER CATALOGUE.

134800

15<sup>h</sup> 6<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	8004	6.7	-52 24	10.2	10.2	A	1	..	40421b	51	1039	7.0	+64 56	7.20	8.20	Ko	7	..	38737i
2	6357	6.7	-53 19	10.7	10.7	A	1	..	40421b	52	3076	7.0	+20 27	7.11	7.45	F2	5	..	20983i
3	6355	6.7	-53 38	10.1	10.1	Ao	2	..	40421b	53	2801	7.0	+11 51	7.7	8.1	F5	4	..	37217i
4	6641	6.7	-56 7	10.6	10.7	A2	2	..	23021b	54	2804	7.0	+10 36	6.78	6.78	Ao	8	..	37217i
5	6640	6.7	-56 44	10.1	10.1	Ao	4	..	37618b	55	4028	7.0	-16 31	10.1	10.5	F5	2	..	40622b
6	2283	6.7	-69 23	8.7	8.8	A2	5	..	14146b	56	3999	7.0	-18 26	9.4	9.9	F8	3	..	40622b
7	890	6.8	+66 11	6.82	8.17	Ma	6	..	38737i	57	3913	7.0	-22 51	9.9	10.2	G5	2	..	40576b
8	1484	6.8	+61 11	8.6	9.7	K2	3	..	38764i	58	11801	7.0	-32 4	9.7	10.1	Go	2	..	39299b
9	1858	6.8	+52 48	8.2	9.2	Ko	2	..	38736i	59	10071	7.0	-38 40	9.2	10.6	Ko	2	..	21508b
10	2471	6.8	+42 54	9.0	9.4	F5	3	..	37640i	60	9633	7.0	-42 1	10.6	11.0	A	1	..	37602b
11	2707	6.8	+31 3	8.3	8.4	A2	4	..	37800i	61	9946	7.0	-44 12	9.5	9.5	Ko	3	..	37602b
12	4273	6.8	-17 43	7.00	7.78	G5	8	..	40622b	62	9731	7.0	-48 23	9.7	10.5	K2	1	..	37909b
13	10042	6.8	-37 41	8.9	10.7	Ko	2	..	21508b	63	9433	7.0	-49 36	10.1	10.5	G5	1	..	37909b
14	9627	6.8	-42 2	9.8	10.6	A2	2	..	37602b	64	6439	7.0	-55 42	8.1	8.3	B5	8	..	40421b
15	9711	6.8	-43 50	8.3	7.4	Ao	8	..	37602b	65	5689	7.0	-60 16	9.7	9.7	Ao	1	..	37618b
16	9710	6.8	-43 58	9.3	9.8	K2	3	..	37602b	66	1785	7.0	-71 46	9.7	9.7	Ao	4	..	14146b
17	9186	6.8	-50 18	8.9	9.6	Ko	1	..	37909b	67	697	7.0	-81 31	8.2	9.4	K5	2	..	13442b
18	6358	6.8	-53 19	11.0	11.0	A	1	..	40421b	68	2554	7.1	+33 42	8.9	9.9	Ko	2	..	37800i
19	5867	6.8	-59 26	8.9	10.0	K	1	..	37618b	69	2799	7.1	+21 55	7.62	7.68	A2	7	..	17783i
20	5866	6.8	-59 27	7.2	8.8	G5	7	..	37618b	70	2802	7.1	+12 38	8.5	9.6	K2	5	3,2	5403m
21	5687	6.8	-60 59	9.2	9.2	Ao	2	..	19750b	71	2805	7.1	+10 10	7.47	8.47	Ko	3	..	37217i
22	3538	6.8	-63 46	8.9	8.9	B9	5	..	21824b	72	10252	7.1	-34 48	9.6	10.7	G5	1	..	39299b
23	1502	6.8	-73 8	9.7	10.5	G5	1	..	14146b	73	9656	7.1	-39 15	10.0	10.4	F2	3	..	21508b
24	1503	6.8	-73 43	9.8	10.2	F5	2	..	14146b	74	9635	7.1	-41 7	7.6	7.5	B9	8	..	37602b
25	1388	6.9	+62 8	8.9	10.1	K5	1	..	38764i	75	9637	7.1	-41 21	9.2	10.4	G5	2	..	37602b
26	2570	6.9	+42 33	8.2	9.3	K2	3	..	37640i	76	6642	7.1	-56 51	8.8	10.4	Ko	3	..	37618b
27	2803	6.9	+10 31	7.7	7.8	A5	3	..	37217i	77	..	7.1	-59 28	..	..	O	..	R	76,29
28	4154	6.9	- 6 24	8.9	9.0	A5	2	2,4	39089i	78	2743	7.1	-66 35	9.8	10.9	K2	3	..	21824b
29	4145	6.9	-14 11	8.5	9.3	G5	2	..	41198b	79	339	7.2	+84 25	8.7	9.7	Ko	2	..	37813i
30	4050	6.9	-15 20	7.75	8.82	K2	5	..	40622b	80	458	7.2	+79 35	8.91	9.19	F	3	..	37809i
31	4274	6.9	-17 33	10.6	10.6	A	2	..	40622b	81	1049	7.2	+64 29	8.2	9.3	K2	1	..	38764i
32	4050	6.9	-19 39	10.6	10.4	A	1	..	40622b	82	2912	7.2	+ 7 0	9.0	9.1	A5	3	..	11333b
33	4170	6.9	-20 34	9.2	9.9	Ko	3	..	40576b	83	2977	7.2	+ 4 43	8.30	8.72	F5	6	..	37729i
34	10785	6.9	-25 19	8.12	8.7	Ko	4	..	41209b	84	2925	7.2	+ 2 46	8.9	9.0	A5	4	..	37729i
35	12036	6.9	-30 22	9.5	9.0	Go	3	..	41209b	85	4147	7.2	-14 19	8.0	8.3	F2	6	..	41198b
36	10672	6.9	-32 57	8.3	9.0	Ko	4	..	39299b	86	4029	7.2	-16 45	9.9	10.9	Ko	2	..	40622b
37	10119	6.9	-35 43	6.12	6.7	B9	9	..	43316b	87	4001	7.2	-18 55	8.9	10.1	K5	1	..	40622b
38	9396	6.9	-40 12	9.76	10.3	A2	3	..	21508b	88	10676	7.2	-32 46	8.9	8.7	F8	5	..	39299b
39	9395	6.9	-40 55	9.6	10.4	K2	2	..	37602b	89	9194	7.2	-50 56	9.9	10.0	B8	2	..	40421b
40	9630	6.9	-41 48	8.9	9.3	A3	4	..	37602b	90	6361	7.2	-54 2	7.7	9.0	Ko	6	..	40421b
41	10133	6.9	-42 55	9.0	10.6	K2	2	..	37602b	91	6405	7.2	-54 50	9.0	10.1	K2	2	..	40421b
42	9742	6.9	-45 16	11.0	10.1	F5	2	..	37602b	92	6958	7.2	-57 27	9.1	9.8	Ao	4	..	37618b
43	6955	6.9	-57 39	9.8	10.4	Go	4	..	37618b	93	5869	7.2	-59 38	8.6	8.9	Fo	4	..	37618b
44	6957	6.9	-57 59	9.1	9.5	B5	5	..	37618b	94	4425	7.2	-62 57	8.0	8.3	Fo	6	..	19901b
45	5688	6.9	-61 4	9.1	9.2	A2	2	..	19750b	95	3541	7.2	-64 3	8.7	8.7	Ao	4	..	21824b
46	4865	6.9	-61 57	9.3	9.4	A2	1	..	19750b	96	3009	7.2	-65 14	9.3	10.3	Ko	2	..	21824b
47	2742	6.9	-66 21	10.5	10.5	B9	3	..	21824b	97	2807	7.2	-67 7	8.6	8.9	Fo	7	R	21824b
48	1784	6.9	-72 3	9.2	10.2	Ko	1	..	14146b	98	..	7.2	-67 7	..	..	Ao	..	..	..
49	1504	6.9	-73 21	9.6	9.7	A3	3	..	14146b	99	2287	7.2	-69 30	7.9	8.2	F2	6	..	14146b
50	1356	6.9	-74 13	8.9	9.0	A5	6	..	14146b	100	2267	7.3	+48 23	8.7	9.2	F8	2	..	38741i

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

134900

15<sup>h</sup> 7<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2554	7.3	+32 24	8.7	9.5	G5	3	..	37800i	51	10056	7.5	-37 49	9.6	9.9	A3	4	..	21508b
2	2829	7.3	+24 38	8.9	9.5	Go	3	..	17783i	52	10053	7.5	-38 4	10.4	10.1	Fo	3	..	21508b
3	2830	7.3	+17 1	9.3	10.3	Ko	4	..	5403m	53	9650	7.5	-41 11	9.6	9.6	F2	3	..	37602b
4	2749	7.3	+16 29	10.1	10.6	F8	2	..	5403m	54	9752	7.5	-45 51	8.6	9.3	Ko	4	..	37909b
5	2748	7.3	+15 53	9.1	9.4	Fo	7	5,1-	5403m	55	9443	7.5	-49 26	9.2	9.4	Ao	6	..	37909b
6	3904	7.3	-12 0	8.9	9.5	Go	2	..	41198b	56	8034	7.5	-52 36	9.4	10.5	K2	1	..	40421b
7	4052	7.3	-19 44	9.4	9.8	Fo	3	..	40622b	57	6647	7.5	-56 39	10.1	10.1	B9	3	..	37618b
8	12040	7.3	-30 20	9.1	9.5	G5	3	..	41209b	58	6960	7.5	-57 48	8.2	8.4	B8	7	..	37618b
9	10049	7.3	-37 11	8.1	9.3	Ma	6	..	21508b	59	5866	7.5	-58 42	8.8	8.0	Bo	6	..	37618b
10	9658	7.3	-40 3	9.43	9.8	F8	3	..	21508b	60	3132	7.5	-64 33	9.5	10.7	K5	2	..	21824b
11	9405	7.3	-40 24	12.0	10.7	A5	2	..	37602b	61	2291	7.5	-69 40	8.9	10.0	K2	2	..	14146b
12	9403	7.3	-40 40	12.0	11.2	A3	1	..	37602b	62	2292	7.5	-70 5	10.2	10.2	A	1	..	14146b
13	10143	7.3	-42 59	8.1	8.9	G5	6	..	37602b	63	2801	7.6	+22 43	6.84	8.19	Mb	6	..	17783i
14	8024	7.3	-52 16	9.1	10.2	Ko	3	..	40421b	64	2992	7.6	+8 49	8.9	9.3	F5	2	..	37745i
15	6443	7.3	-55 7	9.6	10.4	G5	1	..	40421b	65	2940	7.6	-0 58	9.1	10.1	Ko	1	..	41558b
16	6442	7.3	-55 37	10.4	10.4	Ao	2	..	40421b	66	4090	7.6	-9 27	8.5	9.0	F8	3	0,3	41198b
17	5861	7.3	-58 34	9.1	9.4	Fo	4	..	37618b	67	4055	7.6	-19 17	6.05	6.8	A2	..	..	56,91
18	1734	7.3	-72 8	9.5	10.7	K5	1	..	14146b	68	4054	7.6	-19 52	8.7	9.0	F8	4	..	40622b
19	437	7.4	+83 35	9.1	10.3	K5	1	..	37820i	69	11598	7.6	-29 23	7.9	9.2	G5	3	..	41209b
20	2841	7.4	+39 21	8.1	8.6	F8	2	0,2	37800i	70	10393	7.6	-33 9	9.0	8.7	F8	5	..	39299b
21	2784	7.4	+23 26	8.8	9.3	F8	2	..	17783i	71	9995	7.6	-36 30	10.2	9.8	Go	4	..	21508b
22	2845	7.4	+14 44	9.29	10.64	Mb	3	..	5403m	72	10084	7.6	-38 53	9.2	10.3	F5	4	..	21508b
23	3978	7.4	-7 44	9.4	10.6	K5	1	..	13422b	73	9415	7.6	-40 38	10.6	11.0	Ko	1	..	37602b
24	4105	7.4	-13 20	8.8	9.3	F8	2	..	41198b	74	9414	7.6	-40 42	11.1	11.0	G5	1	..	37602b
25	9991	7.4	-36 32	10.4	10.1	Go	2	..	21508b	75	9651	7.6	-41 14	10.0	10.1	G5	2	..	37602b
26	10082	7.4	-38 26	9.2	9.3	F5	4	..	21508b	76	10149	7.6	-42 20	9.0	9.5	A3	6	..	37602b
27	9408	7.4	-40 15	9.18	10.3	Ko	3	..	21508b	77	9895	7.6	-46 40	7.7	7.4	A3	8	..	37909b
28	9409	7.4	-41 5	9.6	9.3	Go	5	R	37602b	78	8882	7.6	-51 38	10.1	10.5	A5	2	..	40421b
29	9410	7.4	-41 5	9.6	9.2	Go	5	R	37602b	79	8883	7.6	-51 38	8.5	9.9	G5	1	..	40421b
30	9716	7.4	-43 25	7.6	7.2	A2	8	..	37602b	80	5691	7.6	-60 51	8.5	9.5	Ko	2	..	19750b
31	9749	7.4	-45 6	9.7	9.8	F5	3	..	37602b	81	4868	7.6	-61 24	8.9	8.5	Ao	3	..	19750b
32	9750	7.4	-45 14	9.36	9.0	A2	4	..	37909b	82	2811	7.6	-67 18	8.7	8.7	B8	7	..	21824b
33	9748	7.4	-45 23	10.3	9.8	Go	2	..	37602b	83	1508	7.6	-73 47	8.1	8.7	Go	6	..	14146b
34	9801	7.4	-47 9	9.1	8.9	A2	5	..	37909b	84	1131	7.6	-75 11	9.68	9.4	Ao	3	..	40252b
35	9738	7.4	-48 8	9.3	9.9	Ko	2	..	37909b	85	2941	7.7	-0 46	9.1	10.1	Ko	2	..	41558b
36	8031	7.4	-52 14	9.4	9.4	Ao	4	..	40421b	86	11927	7.7	-24 30	9.7	9.0	Ao	5	..	40576b
37	5862	7.4	-58 22	9.2	9.1	Ao	4	..	37618b	87	11928	7.7	-24 56	6.43	7.4	G5	8	..	41209b
38	3131	7.4	-64 52	9.3	10.1	G5	3	..	21824b	88	10130	7.7	-36 1	10.4	10.7	G5	1	..	21508b
39	2809	7.4	-67 30	8.6	8.6	Ao	8	..	21824b	89	10060	7.7	-37 46	9.6	9.8	F5	5	..	21508b
40	2808	7.4	-67 56	8.9	8.9	Ao	8	..	21824b	90	10086	7.7	-38 7	7.04	7.0	A2	6	..	43316b
41	1085	7.4	-77 26	9.6	9.6	Ao	1	..	40252b	91	10085	7.7	-38 33	9.2	9.3	F5	5	..	21508b
42	2207	7.5	+47 14	8.8	9.8	Ko	1	..	38741i	92	9417	7.7	-40 10	8.88	9.6	G5	5	..	21508b
43	2935	7.5	+19 22	5.98	7.33	Mb	5	0,7	20983i	93	10153	7.7	-42 16	9.9	11.2	K2	1	..	37602b
44	2846	7.5	+13 56	10.5	11.1	G	1	..	5403m	94	9723	7.7	-43 53	9.5	9.8	Ko	1	..	37602b
45	3318	7.5	+0 0	7.58	8.76	K5	4	..	37729i	95	9754	7.7	-45 23	11.0	10.1	Go	1	..	37602b
46	12133	7.5	-23 38	6.39	6.6	B9	6	..	5182b	96	9200	7.7	-50 58	10.1	10.0	F2	2	..	40421b
47	12134	7.5	-23 48	10.4	11.3	K2	1	..	40576b	97	8885	7.7	-51 59	9.9	10.2	F5	2	..	40421b
48	10795	7.5	-25 46	10.4	10.5	Ko	2	..	40576b	98	8037	7.7	-52 12	9.8	10.2	F5	1	..	40421b
49	10390	7.5	-34 5	9.8	11.0	K2	1	..	39299b	99	6445	7.7	-55 26	9.6	9.6	B8	4	..	40421b
50	10127	7.5	-35 28	8.2	8.4	A2	5	..	39299b	100	6961	7.7	-57 27	9.0	10.1	G5	3	..	37618b

THE HENRY DRAPER CATALOGUE.

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15<sup>h</sup> 7<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3010	m. 7.7	• 39	10.3	10.8	F8	2	..	21824b	51	10801	m. 8.0	• 49	6.05	7.6	Ko	..	0,9	56,136
2	2812	7.7	-67 38	9.1	10.5	Ma	4	..	21824b	52	10274	8.0	-27 10	9.5	9.3	Ao	3	..	41209b
3	2907	7.8	+13 32	10.5	11.1	G	1	..	5403m	53	10135	8.0	-35 50	9.3	10.1	K5	1	..	21508b
4	2980	7.8	+3 56	7.6	8.0	F5	7	..	37729i	54	9807	8.0	-47 22	9.7	9.2	B9	4	..	37909b
5	3744	7.8	-3 18	8.1	8.9	G5	5	..	41558b	55	9750	8.0	-48 23	8.7	9.0	Ko	6	..	37909b
6	4052	7.8	-15 15	9.9	10.0	A2	3	..	40622b	56	9205	8.0	-50 35	10.1	9.9	A2	3	..	37909b
7	12138	7.8	-23 32	9.4	10.1	F5	3	..	40576b	57	6369	8.0	-53 8	9.4	10.4	Ko	1	..	40421b
8	12044	7.8	-30 50	9.9	9.9	Go	2	..	39299b	58	4875	8.0	-62 0	7.4	7.2	B9	6	1,8	19901b
9	10131	7.8	-35 54	10.4	10.7	F8	1	..	21508b	59	2296	8.0	-69 47	9.1	10.2	K2	1	..	14146b
10	10156	7.8	-42 21	10.6	11.0	A5	1	..	37602b	60	762	8.0	-80 53	8.7	9.9	K5	1	..	40252b
11	9755	7.8	-45 31	8.3	8.0	F8	6	..	37909b	61	2780	8.1	+11 4	6.68	7.75	K2	6	..	37217b
12	8888	7.8	-51 6	9.5	10.5	Ko	1	..	40421b	62	2928	8.1	+2 16	8.9	9.9	K	1	..	37729i
13	8886	7.8	-51 32	10.1	10.2	Ao	2	..	40421b	63	4280	8.1	-17 51	9.9	10.9	Ko	1	..	40622b
14	6447	7.8	-55 55	8.5	8.9	Ao	7	..	40421b	64	4281	8.1	-18 7	9.7	10.7	Ko	1	..	40622b
15	6648	7.8	-56 30	9.8	9.8	Ao	4	..	40421b	65	3917	8.1	-22 59	9.9	10.7	G5	1	..	40576b
16	6962	7.8	-57 21	10.3	10.4	A2	2	..	37618b	66	12144	8.1	-24 1	7.9	8.3	G5	8	..	40576b
17	5871	7.8	-59 52	8.2	9.1	K2	5	..	37618b	67	10802	8.1	-25 40	8.9	8.5	A3	5	..	41209b
18	4872	7.8	-62 0	8.9	9.2	A3	2	..	19750b	68	9999	8.1	-36 30	8.6	8.7	A2	7	..	21508b
19	3011	7.8	-65 55	10.1	10.7	Go	2	..	21824b	69	10068	8.1	-37 7	10.6	10.6	G	2	..	21508b
20	1736	7.8	-72 11	9.4	9.7	F2	3	..	14146b	70	9765	8.1	-45 41	10.6	9.8	Ao	2	..	37602b
21	2569	7.9	+41 25	9.2	10.0	G5	1	..	37640i	71	8044	8.1	-52 46	9.2	10.2	K2	1	..	40421b
22	2829	7.9	+15 46	8.9	9.4	F8	7	R	5403m	72	6413	8.1	-54 36	8.1	8.6	Ao	7	..	40421b
23	2830	7.9	+15 26	10.5	11.1	Go	2	..	5403m	73	4877	8.1	-61 40	9.1	9.2	A2	3	..	19750b
24	2808	7.9	+10 14	9.1	10.1	Ko	1	..	37745i	74	2813	8.1	-67 53	9.3	10.5	K5	1	..	21824b
25	2914	7.9	+7 46	8.6	9.0	F5	4	5,2	11333b	75	1987	8.2	+51 6	9.4	10.2	G5	1	..	38736i
26	2913	7.9	+7 11	8.9	9.5	Go	3	..	11333b	76	2844	8.2	+39 3	8.73	8.79	A2	5	R	37640i
27	4055	7.9	-10 38	6.54	6.60	A2	5	0,9	39089i	77	2845	8.2	+39 3	8.46	8.52	A2	5	..	37800i
28	3907	7.9	-11 37	9.9	10.3	F5	2	..	41198b	78	2616	8.2	+37 8	7.53	8.31	G5	6	..	37800i
29	3916	7.9	-23 10	8.7	8.6	A2	6	..	40576b	79	2558	8.2	+31 51	8.1	9.1	Ko	2	..	37800i
30	11228	7.9	-28 40	10.4	10.5	F	1	..	41209b	80	2937	8.2	+19 28	7.37	8.44	K2	3	..	20983i
31	9998	7.9	-36 50	9.6	10.1	F8	2	..	21508b	81	2994	8.2	+8 24	9.1	10.1	Ko	1	..	11333b
32	10089	7.9	-38 35	9.0	9.3	F5	4	..	21508b	82	2943	8.2	-0 46	9.1	10.1	Ko	1	..	41558b
33	9421	7.9	-40 45	10.2	11.2	Ao	1	..	37602b	83	4282	8.2	-17 58	10.1	10.9	G5	1	..	40622b
34	10157	7.9	-43 1	7.9	7.3	A2	4	2,10	43859b	84	4054	8.2	-21 51	9.7	10.1	G5	3	..	40576b
35	9760	7.9	-45 23	11.0	10.1	Fo	1	..	37602b	85	10137	8.2	-35 51	9.8	9.3	F2	3	..	21508b
36	9757	7.9	-45 46	11.0	9.8	Go	2	..	37602b	86	10000	8.2	-36 32	10.2	9.9	G	2	..	21508b
37	9748	7.9	-48 57	9.7	9.9	Fo	4	..	37909b	87	9667	8.2	-39 8	10.2	10.4	A5	3	..	21508b
38	6410	7.9	-54 12	8.3	8.6	B8	7	..	40421b	88	9658	8.2	-41 57	7.4	8.0	Ao	4	..	43589b
39	6449	7.9	-55 7	8.7	9.3	G5	6	..	40421b	89	9728	8.2	-43 56	9.7	9.2	A5	3	..	37602b
40	6451	7.9	-55 22	10.1	10.1	Ao	4	..	40421b	90	6414	8.2	-54 51	8.8	9.6	F2	5	..	40421b
41	6964	7.9	-57 48	9.8	9.8	B9	3	..	37618b	91	6452	8.2	-55 16	9.1	10.1	Ko	2	..	40421b
42	6965	7.9	-57 46	10.0	10.4	F5	1	..	37618b	92	6453	8.2	-56 5	10.7	10.7	Ao	3	..	23021b
43	5870	7.9	-58 51	9.0	8.5	A2	5	..	37618b	93	6653	8.2	-56 16	10.4	10.4	B8	3	..	23021b
44	1737	7.9	-72 19	8.6	9.7	K2	3	..	14146b	94	6652	8.2	-56 27	8.8	9.8	Ko	4	..	40421b
45	826	8.0	+70 32	8.3	9.1	G5	4	..	38732i	95	6651	8.2	-56 39	8.4	9.6	K2	4	..	40421b
46	2436	8.0	+44 11	8.4	8.8	F5	3	..	37640i	96	5873	8.2	-59 24	9.5	10.6	K2	1	..	37618b
47	2572	8.0	+41 6	9.0	9.6	G	1	..	37640i	97	5694	8.2	-60 57	9.7	9.7	Ao	1	..	19750b
48	2942	8.0	-1 2	9.0	9.5	F8	1	..	41558b	98	3135	8.2	-64 18	8.9	8.9	B9	6	..	21824b
49	3832	8.0	-4 17	8.1	8.2	A3	6	..	41558b	99	2814	8.2	-67 24	10.9	10.9	Ao	2	..	21824b
50	10800	8.0	-25 7	9.50	9.6	A2	3	..	41209b	100	2361	8.3	+49 4	8.17	8.59	F5	3	E	37573i

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

135100

15<sup>h</sup> 8<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2939	8.3	+19 40	6.41	7.19	G5	6	5,8R	20983i	51	3923	8.5	-9 7	7.86	8.42	Go	6	5,6	41198b
2	..	8.3	+16 9	..	..	Go	2	..	5403m	52	4035	8.5	-17 8	8.7	9.3	Go	5	..	40622b
3	2831	8.3	+15 11	9.5	10.5	Ko	5	0,1	5403m	53	11813	8.5	-31 9	4.95	5.9	Fo	..	R	56,136
4	2810	8.3	+9 57	8.32	9.32	Ko	3	..	37745i	54	10399	8.5	-33 32	9.5	10.6	Ko	1	..	39299b
5	3033	8.3	-1 16	8.7	9.7	Ko	2	..	41558b	55	9962	8.5	-45 2	11.0	10.1	A5	1	..	37602b
6	3909	8.3	-12 0	8.5	9.5	Ko	4	..	41198b	56	9769	8.5	-45 31	10.1	9.5	Ao	2	..	37909b
7	4107	8.3	-13 38	7.43	8.21	G5	6	..	41198b	57	9456	8.5	-49 29	9.9	10.5	Ko	1	..	37909b
8	4057	8.3	-19 50	9.4	9.6	Fo	3	..	40622b	58	6418	8.5	-55 5	10.4	10.4	Ao	1	..	40421b
9	3918	8.3	-22 16	10.1	10.4	A2	3	..	40576b	59	5876	8.5	-59 17	9.1	9.7	Go	2	..	37618b
10	10806	8.3	-25 17	9.1	8.7	F5	4	..	41209b	60	5698	8.5	-60 32	5.95	5.73	B1	..	4,10	28,209
11	9730	8.3	-44 2	10.1	9.5	Go	1	..	37602b	61	1362	8.5	-74 58	7.78	8.7	F5	7	..	40252b
12	9898	8.3	-46 12	9.3	9.3	A5	4	..	37909b	62	2846	8.6	+39 21	7.74	8.74	Ko	4	5,4	37800i
13	8049	8.3	-52 9	8.7	9.0	B5	5	..	40421b	63	2884	8.6	+25 7	8.7	9.5	G5	2	..	17783i
14	..	8.3	-64 47	..	..	Ma	1	..	21824b	64	2751	8.6	+15 50	10.5	11.3	G5	3	..	5403m
15	..	8.3	-65 22	..	..	K5	2	..	21824b	65	2908	8.6	+13 39	8.5	9.1	Go	6	2,2	5403m
16	321	8.3	-86 50	8.8	9.9	K2	3	0,2	22577b	66	2981	8.6	+5 26	7.9	9.0	K2	5	..	37729i
17	439	8.4	+83 43	9.4	10.4	Ko	1	..	37820i	67	4036	8.6	-16 31	9.7	10.9	K5	1	..	40622b
18	551	8.4	+76 22	8.2	8.3	A2	6	..	37809i	68	4007	8.6	-18 35	7.36	7.50	A5	8	..	40622b
19	827	8.4	+70 2	7.04	7.38	F2	7	..	38732i	69	4056	8.6	-22 6	9.4	10.2	Ko	2	..	40576b
20	2153	8.4	+50 17	7.62	8.97	Ma	3	0,2	37573i	70	10003	8.6	-36 46	9.2	8.9	B9	6	..	21508b
21	2362	8.4	+49 17	8.6	8.9	Fo	2	..	38741i	71	10105	8.6	-39 5	8.9	9.8	Ko	4	..	21508b
22	2862	8.4	+40 20	8.9	9.7	G5	1	..	37640i	72	9433	8.6	-40 19	9.6	11.2	Ma	1	..	37602b
23	2750	8.4	+16 42	9.5	10.3	G5	4	..	5403m	73	10171	8.6	-42 46	9.7	10.3	Ao	3	..	37602b
24	3981	8.4	-8 10	9.4	9.5	A5	2	..	13422b	74	9739	8.6	-43 47	7.01	6.9	B9	6	0,10	43859b
25	4034	8.4	-16 58	8.9	9.7	G5	4	..	40622b	75	9738	8.6	-44 5	10.3	9.8	A5	1	..	37602b
26	10398	8.4	-33 32	9.0	10.4	K5	1	..	39299b	76	9817	8.6	-47 40	11.6	10.4	A	1	..	37909b
27	10263	8.4	-34 23	8.9	9.8	F8	3	..	39299b	77	8898	8.6	-51 12	9.9	9.6	Ao	5	..	40421b
28	10102	8.4	-38 10	9.3	10.6	Ko	1	..	21508b	78	2816	8.6	-67 22	9.7	10.1	F5	3	R	21824b
29	9671	8.4	-39 41	11.1	10.7	Ao	2	..	21508b	79	1134	8.6	-75 56	9.3	9.7	F5	2	R	40252b
30	9732	8.4	-44 1	9.7	8.3	A	6	..	37602b	80	506	8.7	+78 47	8.7	9.7	Ko	4	..	37809i
31	9767	8.4	-45 16	10.6	9.5	F5	2	..	37909b	81	2583	8.7	+36 21	8.1	8.4	Fo	6	..	37800i
32	9757	8.4	-48 51	8.5	8.7	A5	7	..	37909b	82	4033	8.7	-5 23	9.2	9.3	A5	1	..	41558b
33	8895	8.4	-51 8	9.2	10.0	K2	1	..	40421b	83	3982	8.7	-7 41	8.8	8.8	Ao	5	..	13422b
34	8896	8.4	-51 23	11.6	10.0	Ao	2	..	40421b	84	3924	8.7	-8 23	9.1	9.4	Fo	2	..	13422b
35	6456	8.4	-55 55	8.5	8.3	Fo	8	..	40421b	85	4008	8.7	-18 52	8.20	8.62	F5	5	..	40622b
36	6972	8.4	-57 9	9.2	10.7	G5	2	..	23021b	86	4180	8.7	-20 20	9.53	10.1	G5	2	..	40622b
37	6973	8.4	-57 41	9.2	9.2	Ao	4	..	37618b	87	10808	8.7	-25 9	9.9	10.0	Ko	1	..	40576b
38	4431	8.4	-62 59	7.4	7.4	B8	7	..	19901b	88	11238	8.7	-28 43	8.3	9.3	G5	4	..	41209b
39	3013	8.4	-65 44	6.7	6.7	B9	8	..	36002b	89	10075	8.7	-38 4	10.9	10.6	A3	1	..	21508b
40	2745	8.4	-66 13	9.8	9.8	Ao	7	..	21824b	90	9675	8.7	-39 21	8.2	8.7	A2	8	..	21508b
41	2746	8.4	-66 13	9.8	9.8	B9	5	..	21824b	91	9437	8.7	-41 1	10.9	11.2	Ko	1	..	37602b
42	2297	8.4	-69 56	8.2	8.2	B9	6	..	14146b	92	10176	8.7	-42 12	9.7	9.8	A2	4	..	37602b
43	671	8.5	+72 44	7.9	8.5	Go	5	..	38732i	93	9740	8.7	-43 20	10.3	9.8	Ao	2	..	37602b
44	2863	8.5	+40 2	8.2	9.0	G5	2	..	37640i	94	9819	8.7	-47 48	10.6	9.8	Ao	2	..	37909b
45	2412	8.5	+28 19	8.0	8.8	G5	5	..	17783i	95	2747	8.7	-66 10	9.8	9.8	Ao	4	..	21824b
46	2832	8.5	+16 54	9.8	10.6	G5	2	..	5403m	96	2369	8.7	-68 13	8.2	8.2	B9	7	..	14146b
47	2833	8.5	+15 48	9.3	10.1	G5	5	..	5403m	97	1364	8.7	-74 12	9.2	9.6	F5	3	..	14146b
48	2804	8.5	+12 49	9.5	10.5	Ko	3	..	5403m	98	1363	8.7	-74 37	9.4	9.4	Ao	4	..	14146b
49	2996	8.5	+8 37	9.0	10.2	K5	1	..	11333b	99	1088	8.7	-77 9	9.0	9.1	A2	4	..	40252b
50	2931	8.5	+2 38	9.0	9.4	F5	3	..	37729i	100	2439	8.8	+44 22	7.97	8.25	Fo	6	..	37640i

## THE HENRY DRAPER CATALOGUE.

135200

15<sup>h</sup> 8<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2834	8.8	+15 10	10.5	11.0	F8	1	..	5403m	51	10081	9.0	-37 57	9.8	10.1	Ao	3	..	21508b
2	2847	8.8	+14 48	10.5	11.1	Go	1	..	5403m	52	9439	9.0	-40 12	9.0	10.6	Ko	2	..	21508b
3	2997	8.8	+ 8 4	9.1	9.4	Fo	3	..	11333b	53	9441	9.0	-40 35	7.6	9.3	Ko	5	0,7	21508b
4	2944	8.8	- 0 58	6.66	7.66	Ko	8	R	37729i	54	9440	9.0	-40 38	9.2	10.1	G5	4	..	37602b
5	3036	8.8	- 1 31	var.	var.	Ma	1	R	41558b	55	9905	9.0	-46 47	7.9	7.7	A2	6	..	37909b
6	3035	8.8	- 2 2	9.17	10.35	K5	1	..	41558b	56	9766	9.0	-48 39	8.6	8.7	Ao	7	..	37909b
7	4111	8.8	-13 50	7.05	8.40	Ma	6	..	41198b	57	6461	9.0	-55 15	8.60	9.6	K2	4	..	40421b
8	4283	8.8	-18 4	6.69	7.11	F5	9	..	40622b	58	6660	9.0	-56 52	10.1	10.1	Ao	2	..	37618b
9	4009	8.8	-18 58	10.6	10.7	A2	2	..	40622b	59	3016	9.0	-65 24	9.5	10.5	Ko	5	..	21824b
10	9438	8.8	-40 52	9.6	10.7	Ko	2	..	37602b	60	3017	9.0	-65 25	9.1	10.1	Ko	5	..	21824b
11	10179	8.8	-42 24	10.3	11.2	A3	2	..	37602b	61	3015	9.0	-65 32	10.2	10.3	A2	3	..	21824b
12	9902	8.8	-46 28	10.6	9.5	Ao	2	..	37909b	62	1050	9.1	+64 15	8.2	8.8	Go	2	..	38764i
13	8901	8.8	-51 22	9.5	10.0	F5	4	..	40421b	63	2789	9.1	+23 22	6.25	6.25	Ao	10	..	17783i
14	6382	8.8	-53 46	9.8	9.8	Ao	3	..	40421b	64	2850	9.1	+14 50	8.44	8.94	F8	7	0,3	5403m
15	6423	8.8	-54 14	10.4	10.4	B9	2	..	40421b	65	2849	9.1	+14 29	10.5	11.1	Go	3	..	5403m
16	6424	8.8	-54 26	10.1	10.1	Ao	2	..	40421b	66	2918	9.1	+ 7 13	9.1	10.3	K5	1	..	11333b
17	6421	8.8	-54 49	9.8	10.4	Go	2	..	23021b	67	3012	9.1	+ 6 44	9.3	9.4	A2	2	..	11333b
18	6459	8.8	-55 52	9.6	9.6	Ao	3	..	40421b	68	2984	9.1	+ 4 18	9.1	9.7	G	2	..	37729i
19	1135	8.8	-75 12	6.88	8.4	Ko	6	..	40252b	69	2933	9.1	+ 2 6	8.9	9.2	F2	3	..	37729i
20	822	8.9	+68 47	8.9	10.1	K5	1	..	38737i	70	3910	9.1	-11 55	10.1	10.2	A3	1	..	41198b
21	2752	8.9	+16 18	8.5	9.5	Ko	7	0,2	5403m	71	12061	9.1	-30 36	9.2	9.2	Go	2	..	41209b
22	2910	8.9	+13 30	8.5	9.5	Ko	5	0,1	5403m	72	9975	9.1	-44 45	9.7	9.5	B9	3	..	37602b
23	2807	8.9	+11 56	9.3	9.8	F8	2	..	37745i	73	8906	9.1	-51 16	9.7	9.3	B9	7	..	40421b
24	2999	8.9	+ 3 3	9.0	9.8	G5	3	..	37729i	74	8060	9.1	-52 37	10.2	10.2	Ao	1	..	40421b
25	3320	8.9	+ 0 23	9.3	9.9	Go	1	..	41558b	75	6661	9.1	-57 1	8.6	9.2	A3	6	..	37618b
26	3748	8.9	- 3 39	9.7	10.5	G5	1	..	41558b	76	5879	9.1	-59 38	9.5	10.7	K5	1	..	37618b
27	3747	8.9	- 3 45	9.4	10.6	K5	1	..	41558b	77	2822	9.1	-67 34	9.3	9.3	Ao	6	..	21824b
28	4059	8.9	-15 38	8.7	8.8	A5	6	..	40622b	78	2819	9.1	-67 41	9.8	10.4	Go	2	..	21824b
29	4060	8.9	-16 3	9.1	9.4	Fo	3	..	40622b	79	1791	9.1	-71 19	9.9	10.0	A2	2	..	14146b
30	4285	8.9	-17 24	6.31	6.29	B9	8	..	35804b	80	249	9.2	+85 31	7.41	8.41	Ko	4	..	37793i
31	11945	8.9	-24 6	9.4	10.4	K5	2	..	40576b	81	2834	9.2	+16 53	9.3	10.1	G5	4	..	5403m
32	11946	8.9	-24 50	10.6	10.0	F2	1	..	40576b	82	4034	9.2	- 5 34	8.2	8.5	Fo	7	..	41558b
33	9771	8.9	-46 5	11.0	9.5	A2	2	..	37909b	83	3985	9.2	- 7 50	8.7	9.5	G5	3	..	13422b
34	9904	8.9	-46 52	9.3	9.8	Ko	2	..	37909b	84	10116	9.2	-39 3	8.9	9.3	Ao	6	..	21508b
35	9824	8.9	-47 42	6.19	7.3	A2	..	0,8	28,210	85	9677	9.2	-41 16	10.0	10.6	Fo	2	..	37602b
36	9765	8.9	-48 10	9.3	10.0	G5	2	..	37909b	86	9679	9.2	-42 3	10.0	10.4	G5	3	..	37602b
37	9461	8.9	-49 30	8.9	9.3	Ko	3	..	37909b	87	9909	9.2	-46 16	8.1	9.5	K5	3	..	37909b
38	8056	8.9	-52 50	10.5	10.5	A	1	..	40421b	88	6389	9.2	-53 33	9.8	9.8	Ao	5	..	40421b
39	6385	8.9	-53 46	8.9	9.6	Go	3	..	40421b	89	6464	9.2	-55 33	10.7	10.7	B8	1	..	23021b
40	5701	8.9	-60 35	5.24	..	Oe5	..	R	28,210	90	5881	9.2	-59 26	8.4	8.5	Fo	6	..	37618b
41	5703	8.9	-60 45	8.2	7.9	B8	5	..	19901b	91	3544	9.2	-63 15	4.84	6.7	Ko	..	R	28,210
42	2371	8.9	-69 6	9.2	9.2	Ao	5	..	14146b	92	3018	9.2	-65 32	10.3	10.7	F5	2	..	21824b
43	1741	8.9	-72 39	10.1	10.2	A2	1	..	14146b	93	322	9.2	-86 55	8.5	9.0	F8	7	3,8	13458b
44	1632	9.0	+59 26	7.61	8.79	K5	4	..	38764i	94	143	9.3	+87 37	7.16	8.16	Ko	5	..	37294i
45	2848	9.0	+14 18	9.3	10.1	G5	3	..	5403m	95	1787	9.3	+56 25	8.0	8.0	Ao	4	..	38736i
46	2810	9.0	+12 40	9.1	9.7	Go	4	5,1	5403m	96	1734	9.3	+54 15	9.1	10.2	K2	1	..	38736i
47	2809	9.0	+12 25	8.5	9.7	K5	1	..	37745i	97	3322	9.3	+ 0 44	7.99	7.99	Aop	6	R	37729i
48	3927	9.0	- 8 28	9.2	10.3	K2	1	..	13422b	98	3960	9.3	- 3 0	7.16	7.16	Ao	9	..	41558b
49	4062	9.0	-21 13	9.7	10.4	Ko	1	..	40622b	99	4061	9.3	-15 50	10.1	10.9	G5	1	..	40622b
50	10078	9.0	-37 22	10.4	11.0	K	1	..	21508b	100	4037	9.3	-16 22	9.9	10.9	Ko	2	..	40622b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

135300

15<sup>h</sup> 9<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3923	m. 9.3	° -22 32	9.1	9.9	K5	2	..	40576b	51	9777	m. 9.5	° -48 42	11.6	10.2	A	1	..	37909b
2	10289	9.3	-27 29	7.37	7.6	Ao	5	..	41209b	52	8917	9.5	-51 32	10.1	9.9	A3	2	..	40421b
3	11821	9.3	-32 3	9.7	10.3	Go	2	..	39299b	53	6392	9.5	-53 50	9.1	9.2	Ao	4	..	40421b
4	10692	9.3	-32 55	8.9	10.4	K5	1	..	39299b	54	6667	9.5	-56 40	8.6	9.2	B8	5	..	40421b
5	10085	9.3	-37 17	10.6	11.0	Ko	1	..	21508b	55	6980	9.5	-58 0	7.1	9.3	K2	5	..	37618b
6	10188	9.3	-42 28	9.3	9.6	F5	4	..	37602b	56	5882	9.5	-59 55	9.1	8.8	A2	6	..	37618b
7	9744	9.3	-43 32	8.3	7.7	A2	7	..	37602b	57	4436	9.5	-63 2	8.1	8.1	Ao	5	..	19901b
8	9745	9.3	-43 49	9.2	9.2	Go	2	..	37602b	58	3022	9.5	-65 54	9.8	10.8	Ko	3	..	21824b
9	9779	9.3	-45 7	9.02	8.7	Go	4	..	37909b	59	3023	9.5	-66 1	8.7	9.8	K2	6	..	21824b
10	9830	9.3	-47 41	7.2	6.9	A2	..	2,6	56,136	60	2824	9.5	-67 35	9.5	9.5	B8	5	..	21824b
11	9224	9.3	-50 12	9.7	10.0	Ao	3	..	37909b	61	2004	9.5	-70 21	9.9	10.0	A2	2	..	14146b
12	8914	9.3	-51 32	8.7	9.3	F5	5	..	40421b	62	1516	9.5	-73 39	8.6	9.7	K2	3	..	14146b
13	8913	9.3	-51 34	9.3	10.0	F5	3	..	40421b	63	552	9.6	+76 34	9.2	10.0	G5	3	..	37809i
14	6391	9.3	-53 44	9.3	9.3	B9	5	..	40421b	64	2363	9.6	+48 57	7.32	8.32	Ko	6	..	38741i
15	6664	9.3	-56 22	10.4	10.4	Ao	2	..	23021b	65	2663	9.6	+35 14	8.5	8.9	F5	5	..	37800i
16	6978	9.3	-57 58	10.0	10.1	A2	3	..	37618b	66	3838	9.6	-4 16	9.4	9.9	F8	3	..	41558b
17	4879	9.3	-61 10	9.1	9.2	A2	3	..	19750b	67	3840	9.6	-5 8	6.45	7.52	K2	9	..	41558b
18	3019	9.3	-65 9	10.8	10.8	Ao	3	..	21824b	68	4155	9.6	-14 47	9.1	10.2	K2	3	..	40622b
19	672	9.4	+72 50	9.2	10.0	G5	1	..	38732i	69	10276	9.6	-34 26	8.2	9.9	G5	2	..	39299b
20	1770	9.4	+53 22	8.8	9.8	Ko	1	..	38736i	70	10088	9.6	-37 42	9.6	11.0	Ko	1	..	21508b
21	2270	9.4	+48 30	9.2	10.3	K2	1	..	38741i	71	9684	9.6	-41 6	11.1	10.4	Ao	2	..	37602b
22	2575	9.4	+41 35	9.1	9.2	A5	3	..	37640i	72	9685	9.6	-41 14	11.1	11.0	A2	1	..	37602b
23	2847	9.4	+39 2	8.1	9.1	Ko	2	5,2	37800i	73	9687	9.6	-41 31	10.9	11.0	A3	1	..	37602b
24	2783	9.4	+11 7	8.7	9.8	K2	1	..	37745i	74	10194	9.6	-42 45	10.3	10.7	F8	2	..	37602b
25	2983	9.4	+5 21	8.7	9.3	Go	4	..	37729i	75	9835	9.6	-47 20	7.4	8.6	Ko	4	..	37909b
26	4160	9.4	-7 6	8.3	8.3	Ao	6	0,7	41558b	76	9778	9.6	-48 46	10.1	9.6	Ao	3	..	37909b
27	11952	9.4	-24 26	9.5	8.7	A5	4	..	40576b	77	6469	9.6	-56 1	7.4	8.3	Ko	8	..	40421b
28	11951	9.4	-25 1	9.10	9.9	K2	3	..	40576b	78	6982	9.6	-58 5	9.7	10.7	Ko	1	..	37618b
29	12064	9.4	-30 48	9.5	9.3	A3	2	..	41209b	79	5875	9.6	-58 26	4.16	4.24	A3	..	R	28,210
30	8063	9.4	-52 51	9.3	9.3	Ao	4	..	40421b	80	5874	9.6	-58 41	9.2	9.5	B9	3	..	37618b
31	6428	9.4	-54 43	10.0	10.4	F5	2	..	23021b	81	4438	9.6	-62 34	8.8	8.8	B9	4	..	19750b
32	5709	9.4	-60 38	9.2	8.2	B9	4	..	19750b	82	2383	9.6	-68 19	3.06	3.06	Ao	..	R	28,210
33	4881	9.4	-61 43	9.0	9.7	A2	2	..	19750b	83	827	9.6	-80 5	8.33	8.3	Fo	4	..	13442b
34	3546	9.4	-63 42	9.7	9.8	A5	2	..	19750b	84	823	9.7	+68 10	6.15	6.21	A2	..	0,10	56,91
35	3545	9.4	-63 55	8.6	9.6	Ko	3	..	21824b	85	2784	9.7	+11 11	8.5	9.0	F8	4	..	37745i
36	3021	9.4	-65 52	9.9	10.9	K	2	..	21824b	86	3041	9.7	-2 2	7.97	9.32	Mb	4	0,3	41558b
37	3020	9.4	-66 6	8.62	8.6	B9	8	..	21824b	87	4038	9.7	-5 33	8.9	9.9	Ko	1	..	41558b
38	1792	9.4	-71 26	6.53	8.8	Ma	9	..	14146b	88	4063	9.7	-21 13	9.4	10.9	K5	1	..	40622b
39	1771	9.5	+53 19	7.48	8.48	Ko	4	0,4	38736i	89	12158	9.7	-23 27	9.1	10.4	K2	2	..	40576b
40	3001	9.5	+3 35	8.9	9.2	Fo	3	..	37729i	90	10292	9.7	-27 14	6.78	7.3	F2	7	..	41209b
41	4062	9.5	-15 27	10.1	11.2	K2	1	..	40622b	91	10093	9.7	-37 46	8.9	10.6	Ko	2	..	21508b
42	12068	9.5	-30 20	9.2	9.5	F8	2	..	41209b	92	10126	9.7	-38 30	9.6	9.8	Go	3	..	21508b
43	10012	9.5	-36 38	7.82	8.1	F2	8	..	21508b	93	9837	9.7	-47 56	10.6	10.4	Ma	..	..	M
44	10010	9.5	-36 47	8.3	8.9	A2	10	..	21508b	94	9230	9.7	-50 41	7.9	9.6	K2	4	..	37909b
45	9682	9.5	-41 8	5.20	6.5	F5	9	R	43316b	95	8918	9.7	-51 27	10.1	10.5	A3	2	..	40421b
46		9.5	-41 8			A3				96	3025	9.7	-65 14	8.25	8.6	Fo	8	..	21824b
47	10193	9.5	-42 24	9.5	10.4	F8	2	..	37602b	97	2384	9.7	-68 46	9.0	9.8	G5	2	..	14146b
48	9749	9.5	-43 7	6.32	6.4	B5	..	0,8	28,210	98	1369	9.7	-74 22	8.2	9.3	K2	4	..	14146b
49	9980	9.5	-44 7	11.0	10.1	Go	1	..	37602b	99	673	9.8	+72 7	8.6	9.8	K5	1	..	38732i
50	9913	9.5	-46 13	11.6	9.8	Ao	2	..	37909b	100	1735	9.8	+54 24	8.7	9.3	Go	3	..	38736i



## THE HENRY DRAPER CATALOGUE.

135400

15<sup>h</sup> 9<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2154	9.8	+50 10	7.22	8.22	Ko	4	0,4	38741i	51	10164	10.0	-35 52	9.8	9.8	A3	3	..	21508b
2	2629	9.8	+38 39	6.42	7.42	Ko	7	0,8	37800i	52	9697	10.0	-39 12	7.02	8.0	Ko	9	..	21508b
3	2739	9.8	+20 57	8.5	9.6	K2	3	E	17783i	53	9696	10.0	-39 28	9.8	11.2	Ma	..	..	M
4	2814	9.8	+10 41	9.1	9.9	G5	1	..	37745i	54	9693	10.0	-42 1	7.3	7.1	B9	6	..	43859b
5	3049	9.8	+1 39	8.6	8.9	F2	4	..	37729i	55	9760	10.0	-43 9	10.1	10.4	Ko	1	..	37602b
6	4156	9.8	-15 6	9.91	10.33	F5	2	..	40622b	56	9789	10.0	-45 17	Neb.	Neb.	Pd	2	R	76,22
7	4064	9.8	-15 50	10.3	10.6	F	1	..	40622b	57	8922	10.0	-52 0	11.0	10.5	Ao	2	..	40421b
8	4060	9.8	-19 51	8.9	9.6	F2	5	..	40622b	58	8085	10.0	-52 18	9.3	9.3	Ao	4	..	40421b
9	12159	9.8	-23 32	8.9	10.9	K	1	..	40576b	59	6398	10.0	-53 22	10.6	10.7	A2	1	..	40421b
10	11957	9.8	-24 38	9.9	10.4	K2	1	..	40576b	60	6397	10.0	-53 52	7.8	8.0	B9	7	..	40421b
11	10097	9.8	-37 8	8.2	9.8	Ma	4	..	21508b	61	6472	10.0	-55 42	10.7	10.7	Ao	2	..	23021b
12	9456	9.8	-40 59	9.5	9.6	F8	5	..	37602b	62	6984	10.0	-57 30	10.4	10.4	Ao	3	..	23021b
13	9690	9.8	-41 57	9.6	10.7	K5	1	..	37602b	63	3026	10.0	-65 40	10.2	10.3	A5	4	..	21824b
14	9756	9.8	-43 29	8.6	8.0	Ao	5	..	37602b	64	2827	10.0	-67 37	10.9	10.9	B9	2	..	21824b
15	9755	9.8	-43 35	8.3	7.6	B8	7	..	37602b	65	2011	10.0	-70 15	9.6	10.0	F5	2	..	14146b
16	9983	9.8	-44 8	7.1	7.4	K2	7	..	37602b	66	1053	10.1	+64 1	7.60	7.60	Ao	6	..	38764i
17	9786	9.8	-45 50	9.9	9.8	Ko	1	..	37909b	67	3844	10.1	-4 17	9.9	10.7	G5	1	..	41558b
18	8076	9.8	-52 10	8.6	8.7	Ao	7	..	40421b	68	9791	10.1	-45 50	6.58	7.4	F5	8	..	37909b
19	6983	9.8	-57 9	10.4	10.4	Ao	3	..	37618b	69	9841	10.1	-47 49	11.0	10.1	Ao	1	..	37909b
20	894	9.9	+66 1	7.66	7.72	A2	7	..	38737i	70	9479	10.1	-49 55	9.7	10.0	G5	1	..	37909b
21	1393	9.9	+62 13	7.34	7.90	Go	6	..	38764i	71	8924	10.1	-51 32	9.9	10.7	K2	1	..	40421b
22	2041	9.9	+46 12	8.6	8.7	A5	3	E	37640i	72	6473	10.1	-55 15	8.78	8.4	B9	7	..	40421b
23	4063	9.9	-11 5	8.7	8.8	A2	6	..	41198b	73	6669	10.1	-56 15	9.8	9.8	B9	2	..	40421b
24	4039	9.9	-16 34	9.4	10.0	Go	3	..	40622b	74	6986	10.1	-57 7	10.8	10.8	Ao	2	..	23021b
25	4013	9.9	-18 35	9.9	10.4	F8	1	..	40622b	75	5878	10.1	-58 18	8.7	8.8	A2	4	..	37618b
26	10783	9.9	-26 39	8.1	8.4	F2	4	..	41209b	76	5877	10.1	-58 52	9.0	10.4	K2	1	..	37618b
27	10132	9.9	-38 29	9.6	11.0	Go	1	..	21508b	77	5887	10.1	-59 44	8.4	7.6	B8	7	..	37618b
28	9695	9.9	-39 49	8.3	9.2	Ko	7	..	21508b	78	4888	10.1	-61 28	8.9	9.7	G5	1	..	19750b
29	9759	9.9	-44 0	7.7	7.7	F8	7	..	37602b	79	2749	10.1	-66 10	9.8	9.8	Ao	6	..	21824b
30	9839	9.9	-47 30	6.60	7.7	Ko	..	5,6	28,210	80	1091	10.1	-77 21	8.7	9.0	Fo	4	..	40252b
31	6668	9.9	-56 50	10.4	10.4	Ao	2	..	23021b	81	2564	10.2	+32 36	8.9	9.9	Ko	2	..	37800i
32	5885	9.9	-59 22	9.7	9.7	Ao	2	..	37618b	82	2985	10.2	+5 19	5.44	6.44	Ko	10	..	37729i
33	4884	9.9	-61 50	9.4	9.4	Ao	2	..	19750b	83	2986	10.2	+4 28	9.3	10.3	K	2	..	37729i
34	4885	9.9	-62 1	8.1	8.8	Ko	4	..	19750b	84	3003	10.2	+3 41	9.1	9.7	G	2	..	37729i
35	2748	9.9	-66 39	9.2	9.2	Ao	7	..	21824b	85	4160	10.2	-14 19	8.3	8.1	B3	6	..	41198b
36	824	10.0	+68 0	9.0	9.1	A3	2	..	38737i	86	4061	10.2	-19 10	8.9	8.7	B8	5	..	40622b
37	1052	10.0	+64 0	7.88	7.94	A2	5	..	38764i	87	10706	10.2	-32 17	8.6	9.5	Go	3	..	39299b
38	2561	10.0	+32 9	6.22	7.40	K5	7	..	37800i	88	10167	10.2	-35 34	10.4	10.1	A5	3	..	21508b
39	2946	10.0	-0 49	8.1	8.1	Ao	4	..	37729i	89	10101	10.2	-38 2	10.2	10.4	G5	1	..	21508b
40	3963	10.0	-2 22	9.4	10.2	G5	2	..	41558b	90	9458	10.2	-40 22	8.6	10.1	Ko	3	..	21508b
41	4040	10.0	-16 55	10.1	11.1	Ko	1	..	40622b	91	9700	10.2	-41 20	9.6	10.3	G5	2	..	37602b
42	4185	10.0	-20 13	9.9	10.8	Go	2	..	40622b	92	9698	10.2	-41 52	10.0	10.3	A2	4	..	37602b
43	4186	10.0	-20 34	8.55	8.8	F8	5	..	40576b	93	9843	10.2	-47 56	10.6	9.5	A2	2	..	37909b
44	12162	10.0	-23 36	9.7	10.7	F5	1	..	40576b	94	9787	10.2	-48 30	10.3	10.2	Ao	2	..	37909b
45	12075	10.0	-30 13	9.18	9.2	Ao	3	..	41209b	95	6478	10.2	-55 28	10.6	10.7	A2	3	..	23021b
46	12072	10.0	-30 22	8.2	8.6	Go	6	..	41209b	96	6670	10.2	-56 31	10.4	10.7	F2	1	..	23021b
47	11829	10.0	-31 28	9.1	9.9	K2	2	..	39299b	97	5889	10.2	-60 0	9.1	8.2	B9	6	..	37618b
48	10699	10.0	-32 18	9.0	9.8	Go	2	..	39299b	98	4889	10.2	-61 31	9.3	9.4	A2	1	..	19750b
49	10698	10.0	-32 31	9.2	9.2	Fo	3	..	39299b	99	3027	10.2	-65 59	10.8	10.8	B9	2	..	21824b
50	10165	10.0	-35 20	9.2	10.1	G5	3	..	21508b	100	2750	10.2	-66 44	9.3	9.3	B9	6	..	21824b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

135500

15<sup>h</sup> 10<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	1790	10.3	+56 26	7.40	7.46	A2	7	..	38736i	51	8936	10.6	-51 55	8.9	9.0	Ko	4	..	37909b
2	2640	10.3	+29 32	5.26	5.26	Ao	..	R	56,91	52	5893	10.6	-59 18	9.0	10.0	K2	2	..	37618b
3	2852	10.3	+14 8	8.7	9.3	Go	2	..	37745i	53	3553	10.6	-63 36	9.0	9.3	Fo	2	..	19750b
4	3325	10.3	+0 31	9.0	9.8	G5	2	..	37729i	54	3029	10.6	-65 50	9.7	10.7	Ko	3	..	21824b
5	4162	10.3	-6 47	9.2	9.5	F2	3	..	13422b	55	2308	10.6	-69 13	9.2	9.2	B9	4	..	14146b
6	4102	10.3	-9 34	9.7	10.0	Fo	2	..	13422b	56	2013	10.6	-70 49	9.6	9.7	A3	3	..	14146b
7	10832	10.3	-26 5	9.9	10.4	G5	2	..	40576b	57	895	10.7	+66 35	9.2	9.2	Ao	3	..	38737i
8	10418	10.3	-33 32	9.2	9.5	A2	3	..	39299b	58	2273	10.7	+48 20	7.46	7.54	A3	7	..	38741i
9	10137	10.3	-38 40	9.6	10.3	A2	2	..	21508b	59	3327	10.7	+0 44	5.63	5.71	A3	..	r,10	56,92
10	9461	10.3	-40 17	8.9	11.0	K5	1	..	37602b	60	4040	10.7	-5 15	8.70	9.70	Ko	3	..	41558b
11	9460	10.3	-40 46	9.2	9.3	Fo	6	..	37602b	61	10111	10.7	-37 10	10.6	10.4	Go	2	..	21508b
12	9845	10.3	-47 47	10.1	9.5	A2	3	..	37909b	62	10110	10.7	-37 22	8.2	8.4	Go	7	..	21508b
13	9242	10.3	-50 17	10.1	10.0	Ao	2	R	37909b	63	9710	10.7	-39 21	10.2	10.4	A3	3	..	21508b
14	6400	10.3	-53 51	8.8	10.1	K2	3	..	40421b	64	9708	10.7	-41 34	7.8	9.2	Ma	7	..	37602b
15	6435	10.3	-54 8	9.0	9.2	B9	5	..	40421b	65	9767	10.7	-43 27	9.3	8.9	F8	4	..	37602b
16	4890	10.3	-61 24	9.3	9.4	A3	2	..	19750b	66	9793	10.7	-48 14	9.0	10.0	Ko	2	..	37909b
17	2475	10.4	+43 26	6.55	6.69	A5	8	..	37640i	67	6483	10.7	-55 59	10.8	10.8	B9	1	..	23021b
18	2578	10.4	+41 44	9.2	9.8	G	2	..	37640i	68	5881	10.7	-59 3	8.8	9.2	Ko	3	..	37618b
19	2852	10.4	+39 22	8.5	9.5	Ko	1	..	37800i	69	4443	10.7	-62 47	8.9	8.9	Ao	3	..	19750b
20	2664	10.4	+35 17	8.1	8.9	G5	4	..	37800i	70	2752	10.7	-66 50	8.6	8.6	B8	7	..	21824b
21	4062	10.4	-20 4	9.58	10.3	Ko	2	..	40622b	71	2831	10.7	-67 24	9.2	9.2	B9	7	..	21824b
22	11963	10.4	-24 33	9.7	10.0	F5	2	..	40576b	72	1140	10.7	-75 13	8.62	9.3	Ko	3	..	40252b
23	11835	10.4	-31 21	10.5	10.1	Ao	2	..	39299b	73	465	10.8	+80 24	8.37	9.37	Ko	2	..	37599i
24	10210	10.4	-43 5	10.6	11.0	Go	1	..	37602b	74	2043	10.8	+46 49	8.8	9.6	G5	1	..	38741i
25	8931	10.4	-51 40	10.1	10.5	Fo	1	..	40421b	75	2478	10.8	+42 58	9.1	9.2	A2	2	..	37640i
26	5879	10.4	-59 4	9.3	10.3	Ko	1	..	23021b	76	2816	10.8	+10 29	7.14	7.48	F2	6	..	37217i
27	2751	10.4	-67 0	10.8	10.8	Ao	3	..	21824b	77	3042	10.8	-1 59	8.9	10.0	K2	1	..	41558b
28	1092	10.4	-77 10	8.1	8.7	Go	4	..	40252b	78	3847	10.8	-4 31	7.14	7.64	F8	8	..	41558b
29	1594	10.5	+60 30	8.6	8.7	A3	3	..	38764i	79	4164	10.8	-6 22	8.1	8.1	Ao	7	..	41558b
30	2577	10.5	+42 33	6.37	7.72	Ma	7	..	37640i	80	11259	10.8	-28 15	8.9	10.4	Go	2	..	40714b
31	3004	10.5	+3 24	9.1	9.7	G	2	..	37729i	81	10113	10.8	-37 25	11.6	10.4	G	2	..	21508b
32	4161	10.5	-14 40	9.4	9.9	F8	4	..	40622b	82	10148	10.8	-38 16	10.6	11.0	A5	1	..	21508b
33	4015	10.5	-18 45	9.4	10.5	K2	2	..	40622b	83	10218	10.8	-43 1	8.7	8.6	A2	6	..	37602b
34	4065	10.5	-22 2	5.71	7.7	K2	..	..	56,136	84	9769	10.8	-43 6	9.9	10.4	K2	1	..	37602b
35	9704	10.5	-39 34	8.6	10.1	K2	4	..	21508b	85	9994	10.8	-44 41	9.7	10.4	K2	1	..	37602b
36	9990	10.5	-44 25	9.7	10.1	K5	1	..	37602b	86	9933	10.8	-46 21	10.6	10.1	K2	1	..	37602b
37	9992	10.5	-44 44	10.6	10.1	F8	1	..	37602b	87	9934	10.8	-46 28	10.1	9.8	Ko	1	..	37602b
38	9791	10.5	-49 2	8.0	8.7	Go	6	..	37909b	88	6676	10.8	-56 54	9.4	10.4	Ko	1	..	37618b
39	9487	10.5	-49 56	9.9	10.0	A2	2	R	37909b	89	5897	10.8	-59 28	8.8	8.5	A2	7	..	37618b
40	5880	10.5	-58 20	9.0	8.8	B9	4	..	37618b	90	5896	10.8	-59 37	10.0	10.0	Ao	2	..	37618b
41	3028	10.5	-65 45	10.9	10.9	B9	3	..	21824b	91	5720	10.8	-60 8	5.50	..	Oe5	..	..	28,210
42	2829	10.5	-67 36	9.7	10.1	F5	5	..	21824b	92	2753	10.8	-66 8	var.	var.	F5	7	R	36002b
43	1798	10.5	-71 37	9.6	10.0	F5	2	..	14146b	93	1752	10.8	-72 18	9.1	10.3	K5	1	..	14146b
44	2271	10.6	+47 53	8.0	9.0	Ko	4	..	38741i	94	716	10.9	+71 24	8.9	10.0	K2	2	..	38737i
45	4067	10.6	-10 13	8.51	9.01	F8	4	..	41198b	95	1394	10.9	+62 33	9.1	9.4	F2	2	..	38764i
46	4224	10.6	-12 32	9.2	10.2	Ko	1	..	41198b	96	1737	10.9	+55 49	9.4	10.2	G5	2	..	38736i
47	4017	10.6	-18 16	8.7	9.8	K2	5	..	40622b	97	2156	10.9	+50 38	8.12	9.30	K5	2	3,2	38741i
48	10836	10.6	-25 35	9.9	9.9	F5	3	..	40576b	98	3051	10.9	+1 33	8.7	9.7	Ko	2	..	37729i
49	10107	10.6	-38 5	6.96	7.5	Fo	5	5,10	43316b	99	3052	10.9	+1 10	7.10	8.10	Ko	..	0,7 R	56,92
50	10144	10.6	-38 25	10.4	11.0	Ko	1	..	21508b	100	4067	10.9	-15 13	9.7	9.8	A2	4	..	40622b

## THE HENRY DRAPER CATALOGUE.

135600

15<sup>h</sup> 10<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11965	10.9	-24 41	10.4	10.4	A5	2	..	40576b	51	5728	11.1	-60 44	9.1	9.1	Ao	2	..	19750b
2	10788	10.9	-26 47	9.7	9.5	A3	3	..	41209b	52	4445	11.1	-62 26	8.4	9.2	G5	3	..	19750b
3	10710	10.9	-32 28	9.6	9.8	A3	3	..	39299b	53	2755	11.1	-66 12	9.2	9.3	A3	6	..	21824b
4	9935	10.9	-47 6	10.6	9.8	Ao	1	..	37909b	54	1143	11.1	-75 28	9.4	10.4	Ko	1	..	40252b
5	6403	10.9	-53 36	10.3	10.4	A5	1	..	40421b	55	1010	11.1	-76 23	9.0	9.6	Go	2	..	40252b
6	6678	10.9	-56 24	10.7	10.7	Ao	1	..	23021b	56	576	11.2	+77 32	8.7	9.8	K2	2	..	37809i
7	5898	10.9	-59 9	9.7	9.7	Ao	2	..	37618b	57	2621	11.2	+37 12	7.9	8.3	F5	4	..	37800i
8	3030	10.9	-65 57	10.7	10.8	A2	3	..	21824b	58	2914	11.2	+13 26	9.3	10.3	Ko	1	..	37745i
9	2393	10.9	-68 15	8.7	9.7	Ko	5	..	21824b	59	2989	11.2	+ 5 17	9.0	10.1	K2	3	..	37729i
10	1753	10.9	-72 23	9.7	9.7	Ao	4	..	14146b	60	3328	11.2	+ 0 12	8.7	9.8	K2	1	..	41558b
11	502	10.9	-84 15	8.7	9.5	G5	2	..	22577b	61	4167	11.2	- 6 52	9.7	10.7	Ko	1	..	13422b
12	1176	11.0	+63 2	8.8	9.2	F5	3	..	38764i	62	3934	11.2	- 8 50	7.9	8.2	F2	4	..	13422b
13	2617	11.0	+33 53	8.1	8.4	Fo	5	..	37800i	63	10714	11.2	-32 27	10.4	10.3	Go	1	..	39299b
14	2630	11.0	+30 22	9.2	10.0	G5	1	..	38734i	64	10180	11.2	-35 57	11.1	10.4	A3	2	..	21508b
15	2926	11.0	+ 6 50	6.64	7.64	Ko	8	..	37729i	65	10034	11.2	-36 12	9.8	10.1	Go	3	..	21508b
16	4068	11.0	-16 8	9.7	10.0	Fo	3	..	40622b	66	10159	11.2	-38 25	8.6	8.6	F8	6	..	21508b
17	12173	11.0	-23 39	7.17	7.2	A2	9	..	40576b	67	9720	11.2	-39 26	7.23	8.6	Ko	8	..	21508b
18	12091	11.0	-30 41	9.9	9.9	G	1	..	41209b	68	9774	11.2	-43 37	10.3	9.8	Ao	2	..	37602b
19	10292	11.0	-34 13	7.90	8.1	A2	3	0.7	43316b	69	9853	11.2	-47 32	7.03	7.7	F5	6	..	37909b
20	10030	11.0	-36 12	9.5	10.4	Ma	1	..	21508b	70	8111	11.2	-52 59	10.0	10.0	Ao	2	..	40421b
21	10029	11.0	-36 22	10.6	10.1	G5	2	..	21508b	71	6486	11.2	-55 55	10.1	10.7	Go	1	..	23021b
22	9715	11.0	-41 37	10.0	10.6	F5	2	..	37602b	72	6995	11.2	-57 11	8.1	9.8	Ma	3	..	37618b
23	10224	11.0	-42 43	10.1	10.1	A2	3	..	37602b	73	6996	11.2	-58 6	9.8	10.8	Ko	1	..	23021b
24	9805	11.0	-45 21	7.42	8.4	K5	6	..	37602b	74	5900	11.2	-59 46	7.39	7.5	B9	9	..	37618b
25	9806	11.0	-45 34	8.1	7.7	F8	5	..	37909b	75	2833	11.2	-67 34	10.8	10.9	A3	3	..	21824b
26	9807	11.0	-45 41	10.1	9.8	Ko	1	..	37909b	76	873	11.3	+67 21	8.4	8.9	F8	4	..	38737i
27	8103	11.0	-52 22	9.7	10.8	K2	1	..	40421b	77	1860	11.3	+51 50	9.0	9.6	Go	3	..	38736i
28	6437	11.0	-54 18	9.5	9.5	B9	3	..	40421b	78	2631	11.3	+30 44	9.9	10.7	G5	1	..	38734i
29	2754	11.0	-66 47	9.3	9.3	B9	5	..	21824b	79	2670	11.3	+26 1	6.67	6.67	Ao	9	..	17783i
30	1792	11.1	+56 30	8.8	9.4	Go	2	..	38736i	80	4108	11.3	-10 8	8.86	9.36	F8	2	..	41198b
31	2631	11.1	+38 41	7.09	7.37	Fop	7	0.8 R	38700i	81	4227	11.3	-12 40	7.02	7.08	A2	8	..	41198b
32	2641	11.1	+29 17	9.1	10.1	Ko	1	..	38422i	82	4293	11.3	-17 26	9.9	10.5	Go	2	..	40622b
33	2791	11.1	+22 55	8.1	8.6	F8	3	..	17783i	83	4189	11.3	-20 14	9.73	10.8	Ko	1	..	40622b
34	3043	11.1	- 1 22	8.9	9.9	Ko	3	..	41558b	84	4069	11.3	-21 26	9.4	10.1	K5	1	..	40576b
35	4104	11.1	- 9 52	8.8	10.0	K5	2	3.2	41198b	85	10036	11.3	-36 34	8.9	8.7	Fo	7	..	21508b
36	4105	11.1	-10 3	8.81	9.99	K5	1	..	41198b	86	9804	11.3	-48 8	9.1	10.0	Ko	1	..	37909b
37	4225	11.1	-12 51	7.9	8.0	A2	7	..	41198b	87	9256	11.3	-50 34	8.1	8.7	B8	7	..	37909b
38	4292	11.1	-17 22	10.1	11.1	Ko	1	..	40622b	88	8950	11.3	-51 46	8.6	8.4	B9	7	..	37909b
39	4063	11.1	-19 38	8.7	8.8	F5	6	..	40622b	89	6408	11.3	-54 0	7.1	8.6	Ma	6	..	40421b
40	11967	11.1	-24 19	10.2	10.4	F2	3	..	40576b	90	6487	11.3	-55 40	9.1	9.5	B9	5	..	40421b
41	10301	11.1	-27 37	10.2	10.7	Ko	1	..	40714b	91	6997	11.3	-57 45	10.4	10.4	Ao	3	..	37618b
42	10177	11.1	-35 36	10.2	10.4	Go	5	R	21508b	92	5903	11.3	-60 1	7.69	7.5	B8	7	..	19750b
43	10178	11.1	-35 36	10.6	11.0					93	4894	11.3	-61 38	9.1	10.0	K2	1	..	19750b
44	10155	11.1	-38 48	8.9	9.8	A3	4	..	21508b	94	674	11.4	+72 11	8.9	9.9	Ko	1	..	38732i
45	9998	11.1	-44 35	10.3	10.4	K2	2	..	37602b	95	829	11.4	+70 16	9.2	10.0	G5	5	..	38737i
46	9801	11.1	-48 7	9.9	9.6	Go	3	..	37909b	96	2157	11.4	+50 16	8.7	9.2	F8	3	..	38741i
47	6406	11.1	-53 20	9.7	10.8	K2	1	..	40421b	97	2853	11.4	+13 51	7.54	8.32	G5	6	0.5	37745i
48	6405	11.1	-53 50	9.0	9.5	Ao	3	..	40421b	98	2786	11.4	+11 12	8.5	8.9	F5	4	..	37745i
49	6485	11.1	-56 5	10.7	11.2	F8	1	..	23021b	99	3329	11.4	+ 0 27	9.5	10.1	G	2	..	37729i
50	6993	11.1	-57 25	10.4	10.4	Ao	2	..	37618b	100	3851	11.4	- 4 36	9.7	9.8	A5	4	..	41558b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

135700

15<sup>h</sup> 11<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4071	11.4	-10 39	9.9	10.5	Go	1	..	45507b	51	6412	11.6	-53 58	9.2	9.5	A2	4	..	40421b
2	3915	11.4	-11 11	9.4	10.0	Go	2	..	41198b	52	5885	11.6	-58 32	9.7	9.7	A0	2	..	37618b
3	4071	11.4	-15 12	8.21	8.27	A2	7	..	40622b	53	5905	11.6	-59 9	9.2	9.2	B8	3	..	37618b
4	10120	11.4	-38 4	10.9	10.7	A0	1	..	21508b	54	1804	11.6	-71 35	8.8	9.8	K0	3	..	14146b
5	10165	11.4	-38 51	9.6	11.0	G5	2	..	21508b	55	1533	11.6	-73 13	10.1	10.2	A2	2	..	14146b
6	9723	11.4	-41 14	10.2	11.4	K5	1	..	37602b	56	440	11.7	+83 12	8.8	9.9	K2	4	..	37820i
7	9725	11.4	-41 30	8.9	9.5	F2	5	..	37602b	57	4044	11.7	-5 28	9.2	9.5	F0	2	..	41558b
8	10001	11.4	-44 9	10.6	9.5	A0	3	..	37602b	58	11630	11.7	-29 47	4.43	6.8	K0	..	R	28,210
9	10003	11.4	-44 26	9.0	9.5	K5	3	..	37602b	59	10041	11.7	-36 58	10.4	10.1	F8	3	..	21508b
10	10002	11.4	-44 37	9.7	10.1	K0	2	..	37602b	60	9482	11.7	-41 3	7.6	8.0	K0	8	..	37602b
11	8117	11.4	-52 7	10.0	10.0	B9	3	..	40421b	61	9732	11.7	-41 17	11.1	11.0	A0	1	..	37602b
12	6409	11.4	-54 0	10.3	10.4	A3	2	..	40421b	62	9734	11.7	-41 44	9.6	11.0	K0	1	..	37602b
13	6440	11.4	-54 49	8.4	9.5	K2	4	..	40421b	63	9779	11.7	-43 16	10.3	9.5	G	2	..	37602b
14	6685	11.4	-56 13	10.1	10.1	A0	2	..	40421b	64	9780	11.7	-43 16	10.6	10.1	A	2	..	37602b
15	6687	11.4	-56 51	10.7	10.7	A0	2	..	23021b	65	9782	11.7	-43 37	10.3	9.8	A	2	..	37602b
16	3140	11.4	-64 43	9.5	9.8	F2	4	..	21824b	66	10007	11.7	-44 29	10.1	9.5	A3	3	..	37602b
17	2835	11.4	-67 14	10.1	10.1	A0	6	..	21824b	67	10006	11.7	-44 49	9.3	8.9	A2	4	..	37909b
18	1756	11.4	-72 54	9.3	9.9	Go	3	..	14146b	68	9814	11.7	-45 50	8.3	8.0	F0	7	0.4	37602b
19	1527	11.4	-74 2	6.59	6.6	A0	6	..	42244b	69	9811	11.7	-48 33	9.2	9.4	A0	4	..	37909b
20	584	11.4	-83 22	8.5	9.5	K0	2	..	22577b	70	7001	11.7	-57 50	9.2	10.4	A2	2	..	23021b
21	1596	11.5	+60 19	9.6	10.0	F5	1	..	38764i	71	3142	11.7	-64 8	8.7	9.8	K2	3	..	21824b
22	2561	11.5	+33 41	3.54	4.54	K0	..	R	2028c	72	2837	11.7	-67 7	8.0	8.0	B8	8	..	21824b
23	2468	11.5	+27 44	8.5	9.0	F8	3	..	17783i	73	2469	11.8	+26 52	8.7	9.8	K2	1	..	17783i
24	2758	11.5	+15 55	7.9	8.7	G5	4	..	37217i	74	2818	11.8	+10 4	6.64	6.70	A2	8	R	37745i
25	3992	11.5	-7 54	7.95	8.73	G5	6	..	13422b	75	2818	11.8	+10 4	6.64	6.70	G	8	R	37745i
26	4165	11.5	-14 14	8.9	9.9	K0	1	..	41198b	76	4022	11.8	-19 4	10.1	10.5	F5	3	..	40622b
27	4018	11.5	-18 44	9.7	10.3	Go	2	..	40622b	77	10851	11.8	-25 53	8.0	8.6	F5	6	..	41209b
28	12099	11.5	-31 5	8.5	8.9	A2	5	..	41209b	78	12105	11.8	-30 7	8.94	9.2	F2	4	..	41209b
29	10037	11.5	-36 37	10.2	9.9	Go	3	..	21508b	79	10123	11.8	-37 21	9.2	10.4	K0	2	..	21508b
30	9481	11.5	-40 42	6.32	7.0	A5	..	3,6	28,210	80	9736	11.8	-41 57	9.5	11.0	G5	1	..	37602b
31	9480	11.5	-41 5	10.4	10.3	B9	4	..	37602b	81	10236	11.8	-42 18	9.2	10.4	K0	3	..	37602b
32	10230	11.5	-42 8	9.1	9.2	A0	5	..	37602b	82	9508	11.8	-49 52	10.6	10.0	A0	1	..	37909b
33	9813	11.5	-45 18	9.3	8.9	A2	4	..	37909b	83	8124	11.8	-52 50	8.8	9.4	F0	3	..	40421b
34	9860	11.5	-47 31	4.36	4.31	B8	..	1, R	28,210	84	6490	11.8	-55 10	8.6	8.4	B9	6	..	40421b
35	5732	11.5	-60 28	9.2	9.2	B9	1	..	19750b	85	5887	11.8	-58 22	10.2	10.2	A0	2	..	23021b
36	2757	11.5	-66 15	9.7	9.8	A3	5	..	21824b	86	5736	11.8	-60 12	7.94	7.6	B5	7	..	19750b
37	2836	11.5	-67 7	6.48	6.2	B5	..	0,9	56,136	87	5734	11.8	-60 41	8.9	8.9	B8	3	..	19750b
38	2314	11.5	-69 17	9.0	9.5	F8	4	..	14146b	88	4897	11.8	-61 50	8.1	7.5	B9	7	..	19750b
39	2315	11.5	-69 38	8.1	9.1	K0	4	..	14146b	89	2017	11.8	-70 47	9.1	9.7	Go	3	..	14146b
40	1530	11.5	-73 15	9.1	9.7	Go	4	..	14146b	90	578	11.9	+77 22	9.2	10.2	K0	2	..	37809i
41	1597	11.6	+59 56	9.16	9.58	F5	2	..	38764i	91	2945	11.9	+19 32	8.1	8.5	F5	5	..	37720i
42	3935	11.6	-9 1	2.74	2.69	B8	..	R	6803c	92	2843	11.9	+17 10	7.9	8.5	Go	5	..	37217i
43	4021	11.6	-18 39	9.7	10.5	G5	2	..	40622b	93	3994	11.9	-7 29	7.56	8.56	K0	6	..	13422b
44	4064	11.6	-19 15	10.3	10.3	G5	1	..	40622b	94	3937	11.9	-8 15	8.9	9.2	F0	3	..	13422b
45	10184	11.6	-35 58	9.8	9.8	Go	5	..	21508b	95	4072	11.9	-10 52	9.2	9.2	A0	4	..	41198b
46	9730	11.6	-42 5	10.6	10.3	A0	3	..	37602b	96	10793	11.9	-26 38	7.6	8.9	K2	4	..	41209b
47	9862	11.6	-47 8	10.6	10.1	A	1	..	37909b	97	9738	11.9	-41 34	9.2	11.0	K2	1	..	37602b
48	9861	11.6	-47 31	7.17	9.5	A	5	R	37909b	98	9787	11.9	-43 18	9.7	9.2	A0	6	..	37602b
49	9259	11.6	-50 16	9.0	10.0	G5	1	..	37909b	99	9819	11.9	-48 26	11.0	9.9	A2	2	..	37909b
50	8955	11.6	-51 26	9.1	9.0	A0	6	..	37909b	100	8960	11.9	-51 43	11.0	10.0	B9	3	..	40421b

## THE HENRY DRAPER CATALOGUE.

135800

15<sup>h</sup> 11<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6492	11.9	-55 30	10.6	10.7	A2	2	..	23021b	51	4451	12.2	-62 35	8.9	9.7	G5	1	..	19750b
2	5886	11.9	-58 56	9.0	9.7	B9	2	..	37618b	52	..	12.2	-66 4	..	..	G5	1	..	21824b
3	5907	11.9	-59 30	8.8	8.8	B8	4	..	37618b	53	441	12.3	+83 48	9.1	10.1	Ko	1	..	37820i
4	3143	11.9	-64 6	8.3	8.9	Go	6	..	21824b	54	786	12.3	+69 43	8.74	9.74	Ko	3	..	38737i
5	2759	11.9	-66 9	10.0	10.1	A2	4	..	21824b	55	1178	12.3	+63 46	8.7	8.8	A3	3	..	38764i
6	..	11.9	-66 43	..	..	Ao	2	..	21824b	56	3018	12.3	+6 4	9.1	10.2	K2	1	..	11333b
7	2317	11.9	-70 0	9.43	10.3	K2	1	..	14146b	57	4025	12.3	-18 31	10.1	10.9	G5	1	..	40622b
8	2888	12.0	+25 3	9.5	10.1	Go	1	..	17783i	58	10188	12.3	-35 28	10.4	10.4	Go	2	..	21508b
9	3757	12.0	-3 49	8.23	8.51	Fo	6	..	41558b	59	10180	12.3	-38 31	8.9	9.3	A5	4	..	21508b
10	4049	12.0	-16 50	9.1	9.6	F8	5	..	40622b	60	9270	12.3	-50 35	9.1	9.0	Fo	4	..	37909b
11	4072	12.0	-21 12	9.1	9.5	F8	3	..	40576b	61	8970	12.3	-51 24	8.0	9.0	F5	6	..	37909b
12	11978	12.0	-24 37	8.7	8.9	A2	7	..	40576b	62	8968	12.3	-51 51	9.5	10.2	G5	1	..	40421b
13	10126	12.0	-37 38	10.6	10.4	Go	1	..	21508b	63	6419	12.3	-53 12	9.2	9.6	Ao	3	..	40421b
14	9490	12.0	-40 28	9.6	8.9	Fo	7	..	21508b	64	6408	12.3	-55 6	9.2	9.2	B9	5	..	40421b
15	9486	12.0	-40 46	9.2	9.3	A2	5	..	37602b	65	5889	12.3	-58 31	9.4	10.4	Ko	1	..	23021b
16	8961	12.0	-51 26	9.3	9.6	A2	4	..	37909b	66	2761	12.3	-66 28	10.9	10.9	Ao	2	..	21824b
17	6494	12.0	-55 19	10.1	10.7	Go	1	..	23021b	67	2402	12.3	-68 16	10.0	10.0	A	3	..	21824b
18	3031	12.0	-65 33	10.8	10.8	A	3	..	21824b	68	664	12.4	+73 13	8.2	9.4	K5	1	..	38732i
19	2760	12.0	-66 34	10.3	10.9	G	2	..	21824b	69	3088	12.4	+20 1	8.8	9.3	F8	4	..	37720i
20	1535	12.0	-73 24	9.3	9.6	F2	4	..	14146b	70	2991	12.4	+5 20	9.1	9.9	G5	2	..	37729i
21	2158	12.1	+50 6	8.8	9.8	Ko	1	..	38741i	71	2990	12.4	+4 32	9.1	9.5	F5	3	..	37729i
22	2854	12.1	+39 4	9.1	9.7	Go	2	..	37800i	72	3855	12.4	-4 50	7.10	8.10	Ko	7	..	41558b
23	2749	12.1	+20 52	8.5	9.5	Ko	7	..	37720i	73	4168	12.4	-14 48	9.4	9.9	F8	3	..	40622b
24	3332	12.1	+0 37	10.1	10.7	Go	2	..	37729i	74	4026	12.4	-18 48	9.7	10.0	F2	3	..	40622b
25	4112	12.1	-10 8	7.26	7.54	Fo	8	..	41198b	75	4024	12.4	-19 9	9.7	9.4	Ao	4	..	40622b
26	4196	12.1	-20 21	8.1	8.8	Ko	6	..	40576b	76	9496	12.4	-40 26	5.78	6.2	B8	..	0.9	28,210
27	11850	12.1	-31 30	8.7	9.3	Ko	5	..	39299b	77	9497	12.4	-40 59	9.0	9.2	Ao	7	..	37602b
28	10012	12.1	-44 34	8.4	9.8	K5	2	..	37602b	78	9748	12.4	-42 4	7.8	8.3	Ao	9	..	37602b
29	8132	12.1	-52 10	9.8	9.9	A2	3	..	40421b	79	10250	12.4	-42 14	10.3	10.7	A2	2	..	37602b
30	6444	12.1	-54 42	10.4	10.4	Ao	2	..	23021b	80	10249	12.4	-42 26	10.1	10.6	G	2	..	37602b
31	4900	12.1	-61 45	8.8	9.1	Ko	1	..	19750b	81	10248	12.4	-42 37	10.1	10.6	G5	2	..	37602b
32	4450	12.1	-62 53	8.6	9.8	K5	2	..	19750b	82	9792	12.4	-43 11	9.5	9.5	Ko	4	..	37602b
33	3557	12.1	-63 46	8.9	10.1	K5	1	..	19750b	83	9824	12.4	-45 27	9.9	9.3	A2	2	..	37909b
34	3032	12.1	-65 57	9.8	9.8	Ao	5	..	21824b	84	9829	12.4	-48 9	9.2	10.7	Ko	1	..	37909b
35	2400	12.1	-68 23	9.2	9.7	F8	4	..	21824b	85	6445	12.4	-54 44	9.2	9.8	B8	4	..	40421b
36	2399	12.1	-69 3	9.9	10.0	A5	2	..	14146b	86	6694	12.4	-56 15	9.2	9.8	A2	3	..	40421b
37	2020	12.1	-70 34	9.9	10.0	A3	2	..	14146b	87	6695	12.4	-56 36	8.8	9.2	Ao	5	..	40421b
38	2713	12.2	+31 17	9.2	10.2	Ko	2	..	38422i	88	5912	12.4	-59 23	8.6	9.1	F2	3	..	37618b
39	2838	12.2	+23 54	8.1	9.2	K2	2	..	17783i	89	3145	12.4	-64 41	9.7	9.8	A2	3	..	21824b
40	2856	12.2	+14 37	8.5	9.3	G5	2	E	37689i	90	2404	12.4	-68 18	9.0	9.1	A3	5	..	21824b
41	4170	12.2	-7 8	8.5	8.8	Fo	5	..	13422b	91	2625	12.5	+37 26	7.08	7.58	F8	8	..	37800i
42	4127	12.2	-13 46	9.9	10.9	Ko	1	..	40584b	92	3016	12.5	+9 45	8.32	8.74	F5	3	E	37689i
43	4067	12.2	-20 1	9.9	10.8	G	1	..	40622b	93	3334	12.5	-0 3	9.38	9.38	Ao	2	..	41558b
44	3928	12.2	-23 7	9.4	10.3	K5	3	..	40576b	94	2948	12.5	-0 37	7.28	8.06	G5	6	..	37729i
45	11853	12.2	-31 34	11.4	10.3	G5	2	..	39299b	95	3758	12.5	-4 8	7.42	7.42	Ao	8	..	41558b
46	10309	12.2	-34 51	9.5	10.4	F2	2	..	21508b	96	12117	12.5	-30 51	6.32	7.9	Ko	..	0.7	56,136
47	9734	12.2	-39 33	9.8	11.0	Ko	1	..	21508b	97	9739	12.5	-39 8	9.2	9.3	A3	5	..	21508b
48	9493	12.2	-40 59	11.1	11.0	Ao	2	R	37602b	98	10251	12.5	-42 27	9.3	9.8	Ao	4	..	37602b
49	10014	12.2	-44 8	10.3	9.5	F5	2	..	37602b	99	9521	12.5	-49 16	8.4	10.2	K2	2	..	37909b
50	10015	12.2	-45 4	9.92	10.1	Fo	2	..	37602b	100	9522	12.5	-49 48	10.1	10.0	F8	2	..	37909b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

135900

15<sup>h</sup> 12<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
		m.	° ' "									m.	° ' "						
1	6447	12.5	-54 50	8.8	10.1	K2	2	..	40421b	51	11984	12.8	-24 39	7.9	7.9	A2	9	..	40576b
2	6696	12.5	-57 2	7.5	8.4	Mb	5	..	37618b	52	11985	12.8	-24 52	8.5	9.2	Ko	4	..	40576b
3	4904	12.5	-61 41	9.2	9.2	Ao	2	..	19750b	53	10197	12.8	-36 0	9.6	9.8	Go	4	..	21508b
4	2839	12.5	-67 52	9.7	10.2	F8	2	..	21824b	54	10057	12.8	-36 26	10.4	9.8	Ao	4	..	21508b
5	875	12.6	+67 14	8.3	9.3	Ko	4	..	38737i	55	10024	12.8	-44 51	9.2	9.0	Ko	3	..	37909b
6	2671	12.6	+26 7	8.3	8.8	F8	3	..	17783i	56	9529	12.8	-49 47	10.1	10.0	Ao	3	..	37909b
7	2991	12.6	+4 1	8.9	9.5	G	2	..	37729i	57	5891	12.8	-59 0	9.2	9.7	F8	2	..	23021b
8	4074	12.6	-10 40	8.9	8.9	Ao	5	..	41198b	58	3034	12.8	-65 21	9.9	10.9	Ko	2	..	21824b
9	4198	12.6	-20 29	8.25	8.8	K2	5	..	40576b	59	2762	12.8	-66 35	9.9	10.9	Ko	2	..	21824b
10	4199	12.6	-20 41	9.7	9.4	G5	2	..	40576b	60	1543	12.8	-73 50	8.4	8.7	F2	7	..	14146b
11	12118	12.6	-30 28	10.2	9.6	F5	2	..	41209b	61	1020	12.8	-76 10	7.3	7.3	B9	9	..	40252b
12	10726	12.6	-32 30	10.0	10.1	F8	1	..	39299b	62	1636	12.9	+59 49	9.06	10.06	Ko	2	..	38764i
13	9501	12.6	-40 57	8.2	8.9	G5	7	..	37602b	63	2274	12.9	+44 57	8.37	9.37	Ko	2	..	37640i
14	9827	12.6	-45 47	9.9	9.2	F2	2	..	37909b	64	2482	12.9	+43 47	9.0	9.6	G	2	..	37640i
15	6500	12.6	-55 26	9.6	10.4	G5	3	..	23021b	65	2648	12.9	+29 12	8.9	9.9	Ko	1	..	38422i
16	6697	12.6	-56 25	9.8	9.8	B8	4	..	23021b	66	4232	12.9	-12 33	8.3	9.3	Ko	3	..	41198b
17	5917	12.6	-59 11	8.0	7.9	B5	7	..	37618b	67	4075	12.9	-15 16	10.1	10.7	Go	2	..	40622b
18	5918	12.6	-59 56	8.9	8.9	Ao	3	1,3	37618b	68	4298	12.9	-18 2	10.6	11.1	F8	2	..	40622b
19	4905	12.6	-62 0	9.2	9.2	B8	1	..	19750b	69	12195	12.9	-23 28	9.2	10.3	Ko	2	..	40576b
20	4454	12.6	-62 8	8.2	9.2	Ko	3	..	19750b	70	11276	12.9	-28 51	7.9	9.8	K2	2	..	41209b
21	4453	12.6	-62 38	9.2	9.2	Ao	3	..	19750b	71	11861	12.9	-31 32	10.2	11.1	Ao	4	..	39299b
22	3146	12.6	-64 31	9.5	9.6	A5	4	..	21824b	72	9758	12.9	-41 53	9.5	9.6	Ao	5	..	37602b
23	1540	12.6	-73 44	8.9	9.0	A5	7	..	14146b	73	10264	12.9	-42 14	9.9	11.0	K5	1	..	37602b
24	1379	12.6	-74 51	8.4	8.4	Ao	6	..	40252b	74	9956	12.9	-47 2	9.1	9.8	K2	1	..	37909b
25	1738	12.7	+54 8	8.8	9.4	Go	2	..	38736i	75	3035	12.9	-66 5	9.4	10.4	Ko	3	..	21824b
26	2858	12.7	+39 10	8.3	9.1	G5	3	..	37800i	76	1382	12.9	-74 52	9.5	9.6	A2	2	..	14146b
27	3005	12.7	+8 13	8.0	8.3	Fo	4	..	37745i	77	2275	13.0	+48 24	9.6	10.4	G5	1	..	38741i
28	2993	12.7	+4 9	8.9	10.1	K5	1	..	37729i	78	2818	13.0	+12 11	8.7	9.8	K2	1	..	37745i
29	4027	12.7	-18 41	10.3	10.8	F8	1	..	40622b	79	3057	13.0	+1 11	9.0	10.0	K	1	..	37729i
30	4028	12.7	-18 54	10.1	10.7	Go	3	..	40622b	80	3336	13.0	+0 31	9.1	9.5	F5	3	..	37729i
31	10315	12.7	-27 37	9.2	9.6	F5	2	..	41209b	81	3857	13.0	-4 53	9.2	10.0	G5	2	..	41558b
32	10727	12.7	-32 41	9.6	10.1	Go	2	..	39299b	82	4204	13.0	-20 10	9.68	10.3	Go	2	..	40622b
33	9504	12.7	-40 36	10.9	10.6	Fo	2	..	37602b	83	4203	13.0	-20 44	8.3	9.4	K5	3	..	40576b
34	10259	12.7	-42 59	9.3	11.2	K5	1	..	37602b	84	10060	13.0	-36 20	8.9	8.3	Fo	7	0,3-	41391b
35	9797	12.7	-43 36	10.6	10.1	F8	1	..	37602b	85	10134	13.0	-37 13	8.9	9.8	Ko	3	..	21508b
36	9830	12.7	-45 6	9.26	9.2	A2	3	..	37909b	86	10191	13.0	-38 28	9.2	9.3	F2	4	..	21508b
37	8974	12.7	-51 8	8.3	8.7	A3	6	..	37909b	87	6450	13.0	-54 6	10.4	10.4	Ao	2	..	40421b
38	6422	12.7	-53 24	8.9	9.6	B9	2	..	40421b	88	2763	13.0	-67 2	9.6	9.6	Ao	5	..	21824b
39	6449	12.7	-54 12	10.4	10.4	Ao	2	..	40421b	89	1383	13.0	-74 42	9.0	9.0	Ao	4	..	40252b
40	6448	12.7	-55 1	9.3	10.1	G5	2	..	40421b	90	764	13.0	-80 39	8.5	9.5	Ko	2	..	40252b
41	2840	12.7	-67 8	10.4	10.5	A3	3	..	21824b	91	2811	13.1	+22 40	7.83	8.39	Go	5	0,7	17783i
42	1380	12.7	-74 43	9.3	9.3	Ao	4	..	14146b	92	2919	13.1	+13 31	9.1	10.1	K	1	E	37689i
43	1863	12.8	+52 38	9.0	9.5	F8	2	..	38736i	93	3044	13.1	-1 14	9.5	10.3	G5	2	..	41558b
44	1990	12.8	+51 19	6.52	7.30	G5	7	..	38736i	94	4116	13.1	-9 25	8.7	9.5	G5	2	..	41222b
45	2646	12.8	+28 51	9.1	9.2	A2	3	..	17783i	95	4032	13.1	-19 1	9.4	10.4	Ko	4	..	40622b
46	2891	12.8	+25 34	8.6	9.7	K2	1	..	17783i	96	4070	13.1	-19 56	10.6	10.3	Go	2	..	40622b
47	2751	12.8	+21 22	8.5	9.5	Ko	4	..	37720i	97	11865	13.1	-31 40	8.7	9.2	A2	6	..	39299b
48	4030	12.8	-18 53	10.1	10.2	A3	3	..	40622b	98	10202	13.1	-35 21	8.7	9.9	K5	3	..	39299b
49	4029	12.8	-19 6	9.7	10.3	G5	3	..	40622b	99	10194	13.1	-38 42	10.2	11.2	K2	1	..	21508b
50	12194	12.8	-23 53	8.5	9.1	K2	4	..	40576b	100	9832	13.1	-45 30	10.6	10.1	Go	1	..	37602b

## THE HENRY DRAPER CATALOGUE.

136000

15<sup>h</sup> 13<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	8981	13.1	-51 46	10.1	9.9	Ao	4	..	40421b	51	10207	13.4	-35 15	9.18	10.1	K5	2	..	39299b
2	8155	13.1	-52 9	10.2	10.2	Ao	3	..	40421b	52	10209	13.4	-35 54	9.5	10.1	G5	3	..	21508b
3	6509	13.1	-55 46	6.9	7.5	B1	4	..	43300b	53	9517	13.4	-40 48	10.6	10.7	A5	2	..	37602b
4	6508	13.1	-56 3	9.1	9.8	F8	3	..	40421b	54	6514	13.4	-55 17	10.4	10.4	Ao	1	..	40421b
5	3559	13.1	-64 5	9.7	9.8	A2	3	..	21824b	55	6704	13.4	-56 27	10.1	10.4	Fo	3	..	23021b
6	2322	13.1	-69 21	10.2	10.3	A2	1	..	14146b	56	5892	13.4	-58 59	10.0	10.0	Ao	1	..	23021b
7	834	13.1	-79 31	8.9	9.4	F8	2	..	40252b	57	5749	13.4	-60 32	8.2	9.4	K5	2	..	19750b
8	2586	13.2	+41 46	9.4	9.9	F8	1	..	37640i	58	3148	13.4	-64 8	9.8	9.8	A	3	..	21824b
9	2474	13.2	+27 23	8.0	9.0	Ko	2	..	17783i	59	3149	13.4	-64 9	8.9	8.9	B9	4	..	21824b
10	3999	13.2	- 8 2	7.60	8.60	Ko	6	..	41222b	60	3036	13.4	-65 10	10.5	10.5	Ao	3	..	21824b
11	4118	13.2	- 9 53	8.9	8.9	Ao	4	..	41198b	61	2764	13.4	-66 15	7.91	8.7	G5	8	..	21824b
12	3932	13.2	-22 58	9.2	9.4	G5	4	..	40576b	62	666	13.5	+73 30	8.7	9.8	K2	1	..	38732i
13	10441	13.2	-33 40	7.62	7.9	Ao	4	0.8	43316b	63	788	13.5	+69 44	9.04	10.22	K5	1	..	38737i
14	10062	13.2	-36 44	6.24	7.2	G5	6	..	43316b	64	876	13.5	+67 44	5.23	5.79	Go	..	..	56,92
15	10137	13.2	-37 44	10.4	10.7	Go	1	..	21508b	65	2846	13.5	+17 36	9.1	10.1	Ko	1	..	37720i
16	10195	13.2	-38 45	9.2	10.7	K5	2	..	21508b	66	2943	13.5	+ 2 27	Cl.	Cl.	Con.	4	R	37729i
17	9749	13.2	-39 19	10.6	10.6	Ao	3	..	21508b	67	3338	13.5	+ 0 12	8.7	9.0	Fo	2	..	37729i
18	10028	13.2	-44 22	10.3	10.1	Go	1	..	37602b	68	3858	13.5	- 5 10	9.05	9.83	G5	2	..	41558b
19	10029	13.2	-44 31	9.9	9.5	F2	4	..	37602b	69	10873	13.5	-25 29	9.5	9.8	Ko	3	..	40576b
20	9834	13.2	-45 44	9.1	8.9	Fo	4	..	37909b	70	9896	13.5	-47 9	8.9	9.5	K2	2	..	37909b
21	9890	13.2	-47 15	10.6	9.8	Ao	2	..	37909b	71	9898	13.5	-47 20	10.1	9.5	Fo	2	..	37909b
22	9887	13.2	-47 24	9.5	9.5	Go	3	..	37909b	72	9535	13.5	-49 55	8.7	8.7	A3	6	..	37909b
23	7016	13.2	-57 13	10.0	10.1	A2	4	..	23021b	73	9288	13.5	-50 33	10.6	9.9	A5	3	..	37909b
24	2021	13.2	-70 12	9.5	9.5	B9	4	..	14146b	74	5926	13.5	-59 42	8.8	8.8	B8	3	..	37618b
25	2276	13.3	+48 29	9.2	9.7	F8	3	..	38741i	75	3037	13.5	-65 44	9.8	9.8	Ao	5	..	21824b
26	2635	13.3	+30 42	9.6	10.4	G5	2	..	38422i	76	..	13.5	-66 51	..	..	Mb	2	..	21824b
27	3059	13.3	+ 1 18	6.72	7.72	Ko	..	0.6	56,92	77	2411	13.5	-68 35	10.0	10.0	A	1	..	14146b
28	3337	13.3	- 0 6	6.04	7.22	K5	8	..	37729i	78	466	13.6	+80 35	8.3	9.3	Ko	3	..	37599i
29	2949	13.3	- 0 25	8.1	8.7	Go	5	..	37729i	79	3017	13.6	+ 9 8	9.0	9.8	G5	2	..	11333b
30	4071	13.3	-19 18	9.9	10.0	F5	3	..	40622b	80	3020	13.6	+ 6 22	9.5	10.3	G5	1	..	37729i
31	4072	13.3	-19 46	9.7	10.3	G5	3	..	40622b	81	4001	13.6	- 7 32	8.7	9.8	K2	2	..	41222b
32	12202	13.3	-23 54	7.17	7.2	A2	9	..	40576b	82	4128	13.6	-13 58	8.8	10.0	K5	1	..	41198b
33	11280	13.3	-28 38	7.7	9.2	G5	4	..	41209b	83	10874	13.6	-25 48	10.4	9.0	Ao	3	..	41209b
34	9750	13.3	-39 53	9.8	10.1	A2	4	..	21508b	84	11636	13.6	-29 43	8.9	9.2	F5	3	..	41209b
35	9891	13.3	-47 41	10.1	9.0	Ao	4	..	37909b	85	10450	13.6	-33 12	10.2	10.3	A2	1	..	39299b
36	6454	13.3	-54 20	9.6	10.4	G5	1	..	40421b	86	9520	13.6	-41 4	10.4	11.0	A2	1	..	37602b
37	6510	13.3	-55 56	8.5	9.8	K2	3	..	40421b	87	8992	13.6	-51 25	10.6	10.5	Ao	2	..	40421b
38	6702	13.3	-56 20	10.4	10.4	Ao	3	..	23021b	88	8990	13.6	-51 33	10.6	10.5	Ao	1	..	40421b
39	6703	13.3	-56 48	9.1	9.6	Go	4	..	40421b	89	6706	13.6	-56 38	10.1	10.1	B9	4	..	23021b
40	3147	13.3	-64 14	9.1	10.1	Ko	3	..	21824b	90	5894	13.6	-58 7	9.2	10.2	Ko	1	..	23021b
41	2408	13.3	-68 35	10.2	10.2	A	1	..	14146b	91	3563	13.6	-64 1	8.6	8.6	B9	5	..	21824b
42	1766	13.3	-72 7	8.6	9.7	K2	3	..	14146b	92	3151	13.6	-65 4	8.8	9.8	Ko	4	..	21824b
43	718	13.4	+71 42	8.32	9.39	K2	2	..	38732i	93	3038	13.6	-65 51	7.12	7.6	Ao	6	2,10	36002b
44	2277	13.4	+47 59	8.3	9.3	Ko	3	..	38741i	94	2844	13.6	-68 0	10.1	10.2	A2	2	..	21824b
45	2588	13.4	+41 39	8.4	9.2	G5	2	..	37640i	95	675	13.7	+72 27	8.56	9.56	Ko	2	..	38732i
46	2649	13.4	+29 19	9.5	10.3	G5	2	..	17783i	96	2672	13.7	+35 31	8.1	9.1	Ko	3	..	37800i
47	3972	13.4	- 2 26	8.1	8.6	F8	5	..	41558b	97	2948	13.7	+19 14	8.9	9.7	G5	2	..	37720i
48	4171	13.4	-14 32	9.4	10.4	Ko	1	..	40584b	98	2997	13.7	+ 4 6	9.3	9.8	F8	2	..	37729i
49	4076	13.4	-15 55	10.3	11.3	Ko	1	..	40622b	99	4173	13.7	- 6 51	9.1	9.6	F8	3	..	41222b
50	4073	13.4	-19 28	9.4	9.5	F8	4	..	40622b	100	3945	13.7	- 9 19	9.27	9.83	Go	1	..	45507b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

136100

15<sup>h</sup> 13<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4300	13.7	-17 55	7.9	8.0	A2	8	..	40622b	51	9292	13.9	-50 55	10.1	9.9	Ao	2	..	37909b
2	4034	13.7	-18 48	7.80	7.86	A2	7	..	40622b	52	8176	13.9	-52 21	8.3	9.3	Ma	5	..	40421b
3	4033	13.7	-19 7	10.3	10.0	F8	2	..	40622b	53	6460	13.9	-54 55	10.3	10.4	A2	1	..	40421b
4	4075	13.7	-19 36	8.87	10.0	G5	2	..	40622b	54	6517	13.9	-55 21	10.1	10.1	Ao	2	..	40421b
5	10812	13.7	-26 24	8.1	9.5	K5	2	..	41209b	55	6709	13.9	-56 33	9.5	9.8	F2	5	..	23021b
6	10070	13.7	-36 58	9.8	9.9	Ao	4	..	21508b	56	6708	13.9	-56 53	9.7	10.7	Ko	2	..	23021b
7	9812	13.7	-43 19	7.9	8.7	K2	5	R	37602b	57	7024	13.9	-57 38	9.2	10.4	A3	3	..	23021b
8	9813	13.7	-43 57	9.2	8.9	Fo	5	..	37602b	58	2413	13.9	-68 16	8.5	8.8	Fo	7	..	21824b
9	9968	13.7	-47 0	9.9	10.1	K2	1	..	37909b	59	2719	14.0	+31 11	6.87	7.87	Ko	5	..	37800i
10	8995	13.7	-51 27	9.2	9.3	Ao	5	..	40421b	60	2823	14.0	+10 48	6.71	7.21	F8	8	..	37689i
11	8993	13.7	-51 48	11.0	10.0	Ao	2	..	40421b	61	3046	14.0	-1 48	8.3	8.3	Ao	4	E	41558b
12	8170	13.7	-52 34	9.8	9.9	A2	3	..	40421b	62	3921	14.0	-11 16	9.4	10.4	Ko	2	..	41198b
13	6431	13.7	-53 56	7.4	7.7	F5	8	..	40421b	63	11639	14.0	-29 34	9.5	9.6	Ao	2	..	41209b
14	1104	13.7	-77 24	9.9	9.9	A	1	..	40252b	64	10322	14.0	-34 34	7.78	8.4	A3	3	1,7	43316b
15	2483	13.8	+42 56	7.37	7.51	A5	7	..	37640i	65	10152	14.0	-37 17	10.9	10.7	Ko	1	..	21508b
16	3090	13.8	+20 21	9.6	10.6	Ko	2	..	37720i	66	9759	14.0	-39 28	9.0	10.6	K5	3	..	21508b
17	3061	13.8	+1 42	9.8	10.6	G5	2	..	16850b	67	9778	14.0	-41 52	9.6	10.4	F5	2	..	37602b
18	3045	13.8	-1 14	7.03	7.53	F8	8	..	37729i	68	10038	14.0	-44 27	10.1	8.9	B9	5	..	37602b
19	3859	13.8	-4 11	8.3	8.7	F5	5	..	41558b	69	9849	14.0	-45 57	9.3	9.5	F8	2	..	37909b
20	4080	13.8	-10 49	8.9	9.0	A3	4	..	41198b	70	7025	14.0	-57 15	9.6	10.8	K5	2	..	23021b
21	12208	13.8	-23 55	7.21	7.3	F2	9	..	40576b	71	5895	14.0	-58 15	8.9	10.0	K2	1	..	37618b
22	11285	13.8	-28 23	9.5	10.7	Go	1	..	40714b	72	5754	14.0	-61 5	8.7	8.6	B8	4	..	19750b
23	11638	13.8	-29 45	9.1	9.5	Go	2	..	41209b	73	1769	14.0	-72 49	10.4	10.5	A2	2	..	14146b
24	10738	13.8	-32 30	7.7	8.1	F2	8	..	39299b	74	789	14.1	+69 18	6.50	6.50	Ao	9	..	38737i
25	10147	13.8	-38 1	9.6	9.3	B8	5	..	21508b	75	2569	14.1	+32 1	var.	var.	B8	5	R	37800i
26	10202	13.8	-39 0	10.6	10.4	A3	3	..	21508b	76	2477	14.1	+27 12	6.55	7.05	F8	8	..	17783i
27	9526	13.8	-40 28	10.2	11.0	F8	1	..	37602b	77	2937	14.1	+7 21	8.5	9.6	K2	3	..	11333b
28	9900	13.8	-47 42	8.6	9.5	K2	2	..	37909b	78	3763	14.1	-3 27	9.4	10.2	G5	3	..	41558b
29	6516	13.8	-55 51	9.1	9.6	F5	3	..	40421b	79	4206	14.1	-20 30	8.10	8.3	F5	6	..	40576b
30	3565	13.8	-63 46	7.9	8.7	G5	6	..	19750b	80	10813	14.1	-26 6	9.7	10.4	Ko	2	..	40576b
31	3152	13.8	-64 27	9.5	9.8	Fo	4	..	21824b	81	12138	14.1	-30 28	9.1	9.2	F8	4	..	41209b
32	..	13.8	-66 4	..	..	K5	2	..	21824b	82	9530	14.1	-40 34	9.2	9.5	A3	5	..	37602b
33	2765	13.8	-67 0	9.1	9.2	A5	7	..	21824b	83	9781	14.1	-41 11	9.3	10.4	Go	3	..	37602b
34	2412	13.8	-68 57	9.3	9.4	A5	4	..	14146b	84	9816	14.1	-43 53	8.1	9.3	K2	3	..	37602b
35	994	13.8	-78 57	7.2	8.3	K2	3	..	13442b	85	10042	14.1	-44 16	9.7	9.5	F2	3	..	37602b
36	2444	13.9	+44 10	8.6	9.4	G5	2	..	37640i	86	9850	14.1	-45 19	11.0	10.1	A3	2	..	37602b
37	2626	13.9	+33 58	6.72	7.50	G5	6	..	37800i	87	9904	14.1	-47 24	7.3	7.6	F5	..	3,7	56,136
38	2755	13.9	+20 57	5.66	6.44	G5	9	..	37720i	88	9860	14.1	-48 27	11.0	10.5	Ao	1	..	37909b
39	2992	13.9	+4 55	8.71	9.05	F2	4	..	37729i	89	9002	14.1	-51 8	9.3	8.7	B8	5	..	40421b
40	3947	13.9	-8 47	7.49	8.84	Mb	5	..	41222b	90	6462	14.1	-55 3	10.7	10.7	Ao	1	..	40421b
41	4035	13.9	-18 23	10.6	11.6	Ko	1	..	40622b	91	6518	14.1	-55 57	10.7	10.7	Ao	2	..	23021b
42	11877	13.9	-31 22	8.9	9.3	A3	4	..	39299b	92	6711	14.1	-56 43	9.8	10.8	Ko	1	..	23021b
43	10151	13.9	-37 6	10.4	11.0	G5	1	..	21508b	93	7026	14.1	-58 2	10.4	10.7	Fo	3	..	23021b
44	10203	13.9	-38 16	8.7	8.7	A2	7	..	21508b	94	5755	14.1	-60 34	9.0	9.4	F5	1	..	19750b
45	10204	13.9	-38 55	8.6	10.1	Ko	4	..	21508b	95	4460	14.1	-62 52	9.2	9.2	Ao	2	..	19750b
46	9527	13.9	-40 43	8.7	9.2	A5	7	..	37602b	96	3153	14.1	-64 54	9.5	10.3	G5	3	..	21824b
47	9775	13.9	-42 4	8.9	9.3	Fo	6	..	37602b	97	2766	14.1	-66 42	9.4	9.8	F5	5	..	21824b
48	10282	13.9	-42 13	8.7	9.5	G5	5	..	37602b	98	2414	14.1	-68 29	9.1	10.2	K2	2	..	21824b
49	9815	13.9	-43 30	10.3	10.4	K2	1	..	37602b	99	1770	14.1	-72 46	10.1	10.2	A5	1	..	14146b
50	9901	13.9	-47 10	10.6	9.5	B9	3	..	37909b	100	557	14.2	+75 51	8.22	9.57	Ma	3	..	37809i



## THE HENRY DRAPER CATALOGUE.

136200

15<sup>h</sup> 14<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2651	14.2	+29 0	8.9	9.9	Ko	2	..	17783i	51	5898	14.5	-58 30	9.1	9.2	A2	2	..	37618b
2	2944	14.2	+2 9	5.18	5.74	Go	..	2, R	56,92	52	5932	14.5	-59 27	9.2	9.2	Ao	2	..	37618b
3	3762	14.2	-3 58	9.7	10.7	K	1	..	41558b	53	4915	14.5	-61 28	8.9	8.5	B8	6	..	19750b
4	4305	14.2	-18 8	11.0	11.8	G5	1	..	40622b	54	836	14.5	-79 21	8.9	10.0	K2	1	..	40252b
5	4076	14.2	-19 11	7.01	7.3	F5	9	..	40622b	55	2896	14.6	+25 33	8.1	9.1	Ko	2	..	17783i
6	9531	14.2	-40 32	8.2	8.6	F8	7	..	37602b	56	2815	14.6	+22 17	8.9	9.9	Ko	3	..	37720i
7	10288	14.2	-42 44	9.2	9.3	A3	5	..	37602b	57	3949	14.6	-8 17	7.9	8.4	F8	7	..	41222b
8	9820	14.2	-43 8	9.2	9.5	Go	4	..	37602b	58	4086	14.6	-21 54	9.4	9.1	Fo	6	..	40576b
9	10043	14.2	-44 13	9.7	9.5	Ko	2	..	37602b	59	10822	14.6	-26 40	8.1	8.7	Ko	4	..	41209b
10	9005	14.2	-51 59	9.2	9.0	B9	5	..	40421b	60	10223	14.6	-35 49	10.2	10.7	Ao	2	..	21508b
11	4912	14.2	-61 34	8.8	9.5	Ko	1	..	19750b	61	9535	14.6	-40 41	8.2	9.3	Ko	6	..	37602b
12	3569	14.2	-63 23	9.1	9.6	F8	1	..	19750b	62	9534	14.6	-40 56	8.9	9.9	G5	4	..	37602b
13	2767	14.2	-66 58	9.2	9.2	Ao	7	..	21824b	63	10044	14.6	-44 9	9.2	9.8	K5	2	..	37602b
14	2416	14.2	-68 30	9.2	10.0	G5	2	..	21824b	64	9867	14.6	-48 31	10.3	10.0	Ao	1	..	37909b
15	1151	14.2	-75 36	8.3	9.3	Ko	4	..	40252b	65	6471	14.6	-54 33	8.6	9.9	Ko	3	..	40421b
16	3923	14.3	-11 38	9.4	10.0	Go	2	5,2	45507b	66	6470	14.6	-54 59	10.7	10.7	Ao	1	..	40421b
17	4175	14.3	-14 59	8.8	9.8	Ko	4	..	40622b	67	6522	14.6	-55 55	9.6	10.4	G5	2	..	23021b
18	4080	14.3	-15 56	10.1	11.1	Ko	1	..	40622b	68	5757	14.6	-60 56	8.2	8.2	B8	5	..	19750b
19	4059	14.3	-16 18	9.9	10.9	Ko	1	..	40622b	69	4462	14.6	-62 21	8.2	9.2	Ko	2	..	19750b
20	9784	14.3	-41 11	10.2	11.0	Ko	1	..	37602b	70	2770	14.6	-66 21	10.4	10.5	A2	3	..	21824b
21	10290	14.3	-42 32	9.2	9.6	Go	4	..	37602b	71	2769	14.6	-66 55	9.8	9.8	Ao	3	..	21824b
22	9822	14.3	-43 30	9.7	10.1	Ko	2	..	37602b	72	1813	14.6	-71 42	7.16	7.4	Ao	6	0,10	35947b
23	6435	14.3	-53 11	8.4	9.8	Ko	4	..	40421b	73	1025	14.6	-76 20	8.5	9.7	K5	1	..	40252b
24	6521	14.3	-55 20	9.5	9.5	B9	5	..	40421b	74	2677	14.7	+26 4	8.1	8.7	Go	3	..	17783i
25	6712	14.3	-56 47	7.05	8.1	K2	7	..	40421b	75	4084	14.7	-10 47	8.8	10.0	K5	2	..	41198b
26	5896	14.3	-58 30	8.2	8.2	A2	5	..	37618b	76	4238	14.7	-12 50	8.1	8.4	Fo	5	..	41198b
27	4461	14.3	-62 13	7.9	7.9	B9	7	..	19750b	77	4176	14.7	-14 20	10.7	11.8	K2	1	..	40584b
28	2025	14.3	-70 41	9.4	10.2	G5	1	..	14146b	78	4310	14.7	-17 36	9.7	10.7	Ko	3	..	40622b
29	1388	14.3	-74 16	9.6	9.6	Ao	4	..	14146b	79	9769	14.7	-39 34	9.6	11.0	K5	2	..	21508b
30	2279	14.4	+48 7	7.70	8.70	Ko	5	..	38741i	80	9536	14.7	-40 34	10.2	11.0	G	2	..	37602b
31	2676	14.4	+26 9	8.6	9.2	Go	2	..	17783i	81	9981	14.7	-46 28	9.5	9.5	K2	2	..	37909b
32	4083	14.4	-10 49	9.2	9.5	F2	3	..	41198b	82	9871	14.7	-48 26	9.2	9.0	B9	5	..	37909b
33	4129	14.4	-14 2	9.7	10.7	Ko	1	..	41198b	83	9013	14.7	-51 56	10.1	9.3	B9	5	..	40421b
34	12001	14.4	-24 37	9.5	9.2	A2	5	..	40576b	84	7028	14.7	-57 36	10.1	11.1	Ko	2	..	23021b
35	10214	14.4	-38 42	8.2	9.3	Ko	5	..	21508b	85	5900	14.7	-58 49	8.8	7.6	Fo	7	..	37618b
36	9973	14.4	-46 46	10.1	9.5	B9	3	..	37909b	86	5935	14.7	-60 0	8.14	7.6	Ao	6	..	19750b
37	9299	14.4	-50 33	9.7	10.2	G5	2	..	37909b	87	3041	14.7	-65 53	9.2	9.8	Go	4	..	21824b
38	6467	14.4	-54 37	9.7	10.1	F5	3	..	40421b	88	2421	14.7	-68 36	9.4	9.4	Ao	4	..	21824b
39	5897	14.4	-58 48	8.8	8.5	Bo	4	R	37618b	89	2026	14.7	-70 58	7.5	8.5	Ko	7	..	14146b
40	2768	14.4	-66 59	9.3	9.6	Fo	6	..	21824b	90	2052	14.8	+45 59	6.82	8.00	K5	5	..	37640i
41	2848	14.4	-67 36	9.5	9.6	A2	5	..	21824b	91	2642	14.8	+30 17	8.1	8.4	F2	5	..	38422i
42	1548	14.4	-73 42	9.1	9.6	F8	3	..	14146b	92	2897	14.8	+25 16	8.5	9.3	G5	2	..	17783i
43	1181	14.5	+62 53	8.8	8.8	Ao	4	..	38764i	93	3009	14.8	+3 42	8.4	8.8	F5	7	..	37729i
44	1599	14.5	+60 29	8.0	9.2	K5	4	..	38764i	94	4132	14.8	-13 37	9.7	10.7	Ko	2	..	40584b
45	4307	14.5	-17 51	9.7	10.7	Ko	2	..	40622b	95	10881	14.8	-25 38	7.19	7.8	Ko	6	..	41209b
46	10330	14.5	-27 56	7.08	7.5	Ao	8	..	41209b	96	10219	14.8	-38 22	8.7	9.9	F8	3	..	21508b
47	10215	14.5	-38 59	9.0	9.9	A3	4	..	21508b	97	10218	14.8	-38 26	10.9	11.0	A	1	..	21508b
48	9788	14.5	-41 54	10.2	9.6	F5	4	..	37602b	98	9538	14.8	-40 17	3.43	3.24	B2	..	R	28,210
49	9548	14.5	-49 40	8.6	9.4	Ko	4	..	37909b	99	10298	14.8	-42 29	10.1	10.4	A3	2	..	37602b
50	6469	14.5	-54 53	10.7	10.7	Ao	1	..	40421b	100	10048	14.8	-44 35	7.17	7.2	B9	5	1,10	43859b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

136300

15<sup>h</sup> 14<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6443	14.8	-53 15	7.3	7.7	F5	8	..	40421b	51	9922	15.1	-47 34	5.06	6.2	F8	..	3,9 R	28,210
2	6472	14.8	-54 56	9.2	10.1	G5	2	..	40421b	52	9919	15.1	-47 57	5.71	6.9	Go	..	0,8 R	28,210
3	5901	14.8	-58 47	8.8	7.6	B8	6	..	37618b	53	9312	15.1	-51 4	10.1	9.9	B9	3	..	40421b
4	3572	14.8	-63 36	9.3	9.3	A0	3	..	19750b	54	8219	15.1	-52 10	8.8	9.3	Go	5	..	40421b
5	..	14.8	-65 31	..	..	K0	2	..	21824b	55	6525	15.1	-55 42	9.0	9.3	F8	4	..	40421b
6	1814	14.8	-72 5	9.7	9.8	A2	3	..	14146b	56	6524	15.1	-55 59	10.1	10.1	A0	3	..	23021b
7	1774	14.8	-73 1	9.9	10.2	F0	3	..	14146b	57	6722	15.1	-56 42	10.3	10.4	A2	3	R	23021b
8	2484	14.9	+42 58	9.0	9.6	G	2	E	37640i	58	5904	15.1	-58 30	8.7	9.7	K0	2	..	23021b
9	2721	14.9	+31 3	9.1	9.7	Go	2	..	38422i	59	5760	15.1	-60 18	5.63	5.9	F5	..	..	28,210
10	3926	14.9	-11 50	9.2	10.0	G5	2	0,1	45507b	60	1154	15.1	-75 22	8.7	9.9	K5	1	..	14146b
11	10883	14.9	-25 14	9.30	9.8	K0	3	..	40576b	61	1401	15.2	+62 15	9.6	10.0	F5	1	..	38764i
12	10166	14.9	-37 15	8.9	10.1	K5	3	..	21508b	62	2277	15.2	+45 23	7.89	8.89	K0	3	..	37640i
13	9833	14.9	-43 58	11.0	9.8	A2	2	..	37602b	63	3023	15.2	+6 20	9.5	9.8	F0	3	..	37729i
14	9984	14.9	-46 36	9.3	9.8	K0	2	..	37909b	64	3345	15.2	-0 6	8.78	9.20	F5	2	..	37729i
15	9309	14.9	-50 16	9.43	9.0	A0	5	..	37909b	65	3951	15.2	-9 0	10.17	10.17	A	1	..	45507b
16	8213	14.9	-52 53	8.3	8.4	Go	6	..	40421b	66	4312	15.2	-17 48	6.20	7.20	K0	8	..	40622b
17	6719	14.9	-56 42	9.7	10.7	K0	2	..	23021b	67	4313	15.2	-18 7	10.1	10.7	Go	4	..	40622b
18	6721	14.9	-56 59	10.1	10.4	F2	2	..	23021b	68	10087	15.2	-36 39	9.5	11.0	K2	1	..	21508b
19	3042	14.9	-66 6	9.3	9.3	A0	5	..	21824b	69	9564	15.2	-49 27	9.1	9.3	A0	6	..	37909b
20	..	14.9	-66 50	..	..	B9	2	..	21824b	70	6473	15.2	-54 54	10.1	10.1	B9	3	..	40421b
21	2853	14.9	-67 43	9.7	10.3	Go	2	..	21824b	71	3160	15.2	-64 40	10.0	10.1	A2	2	..	21824b
22	1391	14.9	-74 55	8.7	8.7	A0	4	..	40252b	72	3043	15.2	-66 4	8.7	9.2	F8	6	..	21824b
23	667	15.0	+73 42	9.0	9.1	A2	3	..	38732i	73	2771	15.2	-66 17	9.2	9.3	A2	6	..	21824b
24	677	15.0	+72 6	8.60	9.10	F8	3	..	38732i	74	1818	15.2	-71 11	9.7	9.8	A2	3	..	14146b
25	1601	15.0	+60 36	8.8	9.4	Go	2	..	38764i	75	720	15.3	+71 39	9.1	9.2	A2	2	..	38732i
26	2373	15.0	+49 39	8.8	9.6	G5	1	..	38741i	76	2374	15.3	+49 0	8.6	9.0	F5	1	..	38741i
27	2870	15.0	+39 58	8.37	8.65	F0	4	5,3	37800i	77	2767	15.3	+16 48	8.3	9.5	K5	1	..	37217i
28	2765	15.0	+16 20	8.3	9.4	K2	2	E	37217i	78	3346	15.3	+0 37	9.5	10.3	G5	1	..	37729i
29	3342	15.0	+0 1	10.5	10.9	F5	1	..	37729i	79	2952	15.3	-0 49	9.1	10.2	K2	2	..	41558b
30	4085	15.0	-10 40	8.5	8.5	A0	6	..	41198b	80	3866	15.3	-4 46	6.68	7.68	K0	7	..	41558b
31	3927	15.0	-11 24	9.9	10.0	A3	2	..	45507b	81	4043	15.3	-18 18	9.2	10.4	K5	3	..	40622b
32	10169	15.0	-37 35	10.0	10.4	Go	2	..	21508b	82	4090	15.3	-21 51	9.4	9.1	A3	6	..	40576b
33	10220	15.0	-38 50	9.6	10.1	A2	5	..	21508b	83	12153	15.3	-30 25	9.9	9.8	K0	1	..	41209b
34	9539	15.0	-40 24	6.24	6.7	A2	..	0,7	28,210	84	10755	15.3	-32 22	10.2	10.1	F5	1	..	39299b
35	10303	15.0	-42 31	10.1	10.1	F2	3	..	37602b	85	10231	15.3	-35 24	9.2	9.9	A2	2	..	39299b
36	9859	15.0	-45 23	7.9	9.2	K2	3	..	37909b	86	9779	15.3	-39 39	8.9	9.5	K0	5	..	21508b
37	9860	15.0	-45 58	9.5	9.5	K2	2	..	37909b	87	9778	15.3	-40 0	10.4	10.3	K0	2	0,2	21508b
38	5938	15.0	-59 35	9.1	10.0	K5	1	..	37618b	88	9800	15.3	-41 41	9.2	10.4	G5	3	..	37602b
39	3159	15.0	-64 59	8.70	9.8	K5	5	..	21824b	89	9799	15.3	-41 53	9.6	9.5	A2	5	..	37602b
40	2854	15.0	-67 20	9.7	10.8	K2	2	..	21824b	90	9837	15.3	-43 43	10.6	9.5	A0	3	..	37602b
41	1106	15.0	-78 6	9.4	9.4	A0	2	..	40252b	91	9863	15.3	-45 44	9.7	9.5	G5	2	..	37909b
42	1865	15.1	+51 59	8.4	9.4	K0	3	..	38736i	92	9880	15.3	-48 39	9.7	10.0	K0	1	..	37909b
43	4126	15.1	-9 22	9.7	10.3	Go	1	..	45507b	93	9318	15.3	-50 12	10.1	10.0	A0	2	..	37909b
44	4180	15.1	-14 23	7.62	8.62	K0	5	..	41198b	94	6474	15.3	-54 34	10.7	10.7	A0	1	..	23021b
45	4082	15.1	-16 4	8.7	9.7	K0	5	..	40622b	95	6526	15.3	-55 36	10.3	11.1	G5	1	..	23021b
46	10328	15.1	-34 50	9.0	9.9	F5	2	..	39299b	96	5907	15.3	-58 41	9.6	9.7	A2	4	..	23021b
47	10171	15.1	-37 52	6.58	6.5	Aop	..	1,7 R	28,210	97	5943	15.3	-59 16	9.2	8.8	B9	6	..	23021b
48	9542	15.1	-40 9	8.57	9.3	K5	4	..	37602b	98	5941	15.3	-59 53	8.6	7.7	B5	5	..	19750b
49	9540	15.1	-40 26	9.6	10.3	K2	2	..	37602b	99	4467	15.3	-62 10	9.2	9.2	B9	2	..	19750b
50	10054	15.1	-44 22	9.9	9.8	K0	3	..	37602b	100	1819	15.3	-71 40	8.9	10.0	K2	1	..	14146b

## THE HENRY DRAPER CATALOGUE.

136400

15<sup>h</sup> 15<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	507	15.4	+78 44	8.6	9.0	F5	4	..	37809i	51	9569	15.6	-49 42	9.7	9.9	F2	4	..	37909b
2	1182	15.4	+63 8	6.77	7.77	Ko	8	..	38764i	52	9566	15.6	-50 1	9.3	9.3	A2	4	..	37909b
3	2574	15.4	+32 54	6.14	6.20	A2	8	..	37800i	53	6454	15.6	-54 4	10.4	10.4	B9	2	..	40421b
4	2845	15.4	+14 55	7.73	9.08	Ma	3	..	37689i	54	4468	15.6	-62 48	9.2	9.2	B9	3	..	19750b
5	3077	15.4	-3 9	8.9	10.0	K2	2	..	41558b	55	3047	15.6	-65 13	10.4	10.4	A	3	..	21824b
6	4182	15.4	-15 1	7.50	8.50	Ko	4	..	41198b	56	..	15.6	-66 40	..	..	Ko	3	..	21824b
7	4083	15.4	-15 12	6.11	6.53	F5	9	R	41198b	57	1552	15.6	-73 9	9.5	10.5	Ko	2	..	14146b
8	4085	15.4	-15 36	8.7	9.3	Go	6	..	40622b	58	4084	15.7	-20 2	var.	var.	Md	2	R	40622b
9	4041	15.4	-18 32	8.8	9.9	K2	5	..	40622b	59	4092	15.7	-21 59	9.4	9.1	F5	5	..	40576b
10	11649	15.4	-29 10	9.4	10.4	K5	1	..	40714b	60	10335	15.7	-27 17	8.2	8.9	F8	4	..	41209b
11	10175	15.4	-38 3	10.2	10.6	G5	2	..	21508b	61	10238	15.7	-35 42	9.8	10.4	F8	3	..	21508b
12	9565	15.4	-49 17	9.2	9.6	F8	4	..	37909b	62	10180	15.7	-38 1	8.2	9.3	Ko	4	..	21508b
13	9024	15.4	-51 37	9.5	9.4	A2	3	..	40421b	63	9782	15.7	-39 48	9.2	10.1	Fo	5	..	21508b
14	6528	15.4	-55 29	10.6	10.6	Ao	1	..	23021b	64	10062	15.7	-44 46	10.1	10.1	F2	2	..	37602b
15	5908	15.4	-58 58	4.54	4.42	B5	..	R	28,210	65	9871	15.7	-45 23	10.1	9.2	F8	2	..	37909b
16	5908	15.4	-58 58	4.54	4.42	F8	..	R	28,210	66	9926	15.7	-47 34	9.0	7.7	Go	5	..	37909b
17	2339	15.4	-69 20	10.2	10.3	A2	1	..	14146b	67	9028	15.7	-51 34	10.1	10.5	Ao	2	..	40421b
18	2587	15.5	+42 6	7.9	8.7	G5	3	..	37640i	68	9030	15.7	-51 57	9.0	8.7	Ao	7	..	40421b
19	2642	15.5	+38 9	8.3	9.3	Ko	4	..	37800i	69	6727	15.7	-56 44	10.0	10.1	A2	4	..	23021b
20	2643	15.5	+29 54	8.14	9.14	Ko	2	..	38422i	70	7031	15.7	-57 47	7.7	10.1	K5	5	..	23021b
21	11299	15.5	-28 20	8.5	10.4	Ko	2	..	40714b	71	5910	15.7	-58 47	9.2	9.2	B	4	..	23021b
22	10236	15.5	-35 54	3.59	6.1	K5	..	0,9 R	28,210	72	5763	15.7	-60 29	9.4	9.4	Ao	1	..	19750b
23	10176	15.5	-37 12	8.9	8.0	A3	8	..	21508b	73	4925	15.7	-61 44	9.2	9.2	Ao	2	..	19750b
24	10229	15.5	-38 53	8.1	9.5	Ko	6	..	21508b	74	2772	15.7	-66 39	8.2	9.2	Ko	8	..	21824b
25	10310	15.5	-43 1	11.0	11.0	Ao	1	..	37602b	75	1029	15.7	-76 10	9.8	9.9	A2	1	..	40252b
26	9995	15.5	-46 37	10.1	9.8	Ko	1	..	37909b	76	838	15.7	-79 49	8.7	9.5	G5	1	..	40252b
27	8228	15.5	-52 47	9.2	8.4	A2	6	..	40421b	77	2851	15.8	+16 54	7.9	8.7	G5	2	..	37217i
28	6453	15.5	-53 23	9.9	9.9	Ao	2	..	40421b	78	2826	15.8	+11 55	9.0	9.8	G5	1	..	37745i
29	6529	15.5	-55 23	9.6	11.0	Ma	1	..	23021b	79	4057	15.8	-5 28	5.60	6.67	K2	10	..	41558b
30	5762	15.5	-60 11	8.8	8.8	Ao	3	..	19750b	80	4181	15.8	-6 16	7.43	8.50	K2	5	..	41558b
31	3046	15.5	-65 16	9.3	10.3	Ko	5	..	21824b	81	4086	15.8	-10 23	9.7	10.3	Go	1	..	45507b
32	3045	15.5	-65 39	10.2	10.3	A5	3	..	21824b	82	10181	15.8	-37 17	6.85	6.7	B9	6	..	43316b
33	2856	15.5	-67 56	8.8	9.2	F5	5	..	21824b	83	9552	15.8	-40 34	9.2	9.2	Go	4	..	37602b
34	2424	15.5	-68 23	10.1	10.2	A2	2	..	21824b	84	9807	15.8	-41 46	10.2	10.4	F8	2	..	37602b
35	2425	15.5	-68 33	10.1	10.2	A2	2	..	21824b	85	10317	15.8	-43 5	10.1	10.1	A5	4	..	37602b
36	1028	15.5	-76 20	9.3	9.3	Ao	3	..	40252b	86	9845	15.8	-43 56	7.05	7.0	A2	..	2,5	28,210
37	765	15.5	-80 58	8.8	9.1	F2	3	..	13442b	87	9330	15.8	-50 47	8.9	8.7	B9	6	..	37909b
38	2217	15.6	+47 28	8.6	9.6	Ko	2	..	38741i	88	4470	15.8	-62 19	..	9.1	Obp	..	5,3 R	76,29
39	2850	15.6	+17 36	8.9	9.7	G5	2	..	37720i	89	4469	15.8	-62 40	8.4	9.4	Ko	1	..	19750b
40	2769	15.6	+16 33	7.5	8.1	Go	4	5,4	37720i	90	2858	15.8	-68 1	10.0	10.0	Ao	3	..	21824b
41	3011	15.6	+3 41	9.8	9.8	A	2	..	37729i	91	2428	15.8	-68 28	9.3	9.7	F5	4	..	21824b
42	3047	15.6	-2 3	6.50	7.57	K2	8	0,8	41558b	92	1393	15.8	-74 19	9.7	9.7	Ao	3	..	14146b
43	4134	15.6	-13 28	9.4	10.4	Ko	3	..	40584b	93	792	15.9	+69 10	8.8	9.9	K2	3	..	38737i
44	4314	15.6	-17 52	9.1	9.9	G5	3	..	40295b	94	1637	15.9	+59 9	7.31	8.31	Ko	5	..	38764i
45	10333	15.6	-27 35	8.3	8.6	F8	5	..	41209b	95	2376	15.9	+48 58	8.3	8.7	F5	3	..	38741i
46	11301	15.6	-28 19	11.8	13.2	Mb	..	..	M	96	2680	15.9	+26 20	9.6	10.1	F8	2	..	17783i
47	10333	15.6	-34 23	9.3	11.0	K5	1	..	39299b	97	3025	15.9	+9 17	7.8	8.2	F5	8	..	37689i
48	9839	15.6	-44 2	9.7	9.8	K2	1	..	37602b	98	3953	15.9	-8 27	8.1	9.1	Ko	4	..	41222b
49	10059	15.6	-44 40	9.5	10.1	Ko	1	..	37602b	99	4241	15.9	-12 32	9.9	10.7	G5	2	..	40584b
50	9997	15.6	-46 47	9.1	9.8	K2	3	..	37909b	100	11895	15.9	-31 11	9.2	9.3	F5	4	..	39299b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

136500

15<sup>h</sup> 15<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11896	m. 15.9	° 31 50	7.43	8.6	Mb	7	..	39299b	51	10243	m. 16.2	° 35 49	9.8	9.8	Fo	4	..	21508b
2	9554	15.9	-40 43	9.6	10.6	Ko	2	..	37602b	52	10098	16.2	-36 7	10.4	9.5	F5	5	..	21508b
3	9815	15.9	-41 14	10.0	10.4	Go	2	..	37602b	53	9789	16.2	-39 34	10.2	10.4	F2	3	..	21508b
4	10066	15.9	-44 20	3.74	3.57	R3	..	R	28,210	54	9560	16.2	-40 17	11.1	10.6	Ao	2	..	21508b
5	9032	15.9	-51 23	7.0	7.8	Ko	8	..	40421b	55	9852	16.2	-43 25	9.5	9.2	B9	6	..	37602b
6	3048	15.9	-65 31	8.9	8.9	B9	8	..	21824b	56	9578	16.2	-49 46	9.7	9.4	Bo	4	..	37909b
7	2429	15.9	-68 11	10.2	10.3	A3	2	..	21824b	57	8243	16.2	-52 48	9.0	8.4	B9	3	R	40421b
8	2430	15.9	-68 21	8.1	9.1	Ko	7	..	21824b	58	6478	16.2	-54 39	9.9	9.9	B9	3	..	40421b
9	133	15.9	-89 0	9.3	10.5	K5	2	..	22980b	59	..	16.2	-64 43	..	..	Ma	..	..	M
10	881	16.0	+67 41	9.6	10.6	Ko	1	..	38737i	60	2774	16.2	-66 51	10.0	10.5	F8	3	..	21824b
11	1739	16.0	+53 56	9.7	10.5	G5	1	..	38736i	61	2345	16.2	-69 9	9.5	10.5	Ko	1	..	14146b
12	2647	16.0	+29 59	5.57	6.57	Ko	..	0.9 R	56,92	62	2165	16.3	+50 34	7.36	7.36	Ao	7	..	38741i
13	3011	16.0	+ 8 3	8.7	9.5	G5	2	..	37689i	63	2573	16.3	+32 24	8.59	9.15	Go	2	..	37800i
14	3067	16.0	+ 1 4	5.48	6.48	Ko	..	0.8	56,92	64	2830	16.3	+10 25	9.1	9.9	G5	1	..	37689i
15	3348	16.0	+ 0 8	8.6	9.4	G5	2	..	37729i	65	2993	16.3	+ 5 44	8.7	9.5	G5	4	..	37729i
16	2955	16.0	- 0 21	9.3	9.4	A2	2	..	37729i	66	3956	16.3	- 8 18	8.5	9.3	G5	4	..	41222b
17	4005	16.0	- 7 24	9.9	10.7	G5	1	..	45507b	67	4184	16.3	-14 48	8.3	9.1	G5	3	..	41198b
18	10184	16.0	-37 52	8.9	9.5	F8	4	..	21508b	68	4316	16.3	-17 19	9.1	10.1	Ko	4	..	40622b
19	9784	16.0	-40 3	10.6	10.6	A2	2	..	21508b	69	10099	16.3	-36 12	8.4	8.9	Fo	8	..	21508b
20	9556	16.0	-40 56	10.6	11.2	K2	1	..	37602b	70	9791	16.3	-39 12	10.6	10.4	A2	3	..	21508b
21	9850	16.0	-43 23	10.1	10.4	Ko	1	..	37602b	71	9339	16.3	-50 33	10.3	9.3	B9	4	..	37909b
22	9891	16.0	-49 3	9.5	9.9	F2	3	..	37909b	72	6467	16.3	-53 45	10.1	10.1	Ao	2	..	40421b
23	9574	16.0	-49 26	10.1	9.9	F8	2	..	37909b	73	6732	16.3	-56 20	8.2	9.0	F2	5	..	40421b
24	2342	16.0	-69 59	9.24	9.5	F5	4	..	14146b	74	4930	16.3	-61 24	9.0	8.6	B9	4	..	19750b
25	135	16.0	-88 17	9.5	10.5	Ko	3	..	22980b	75	998	16.3	-78 30	9.4	9.5	A2	1	..	40252b
26	2722	16.1	+31 3	9.9	10.7	G5	1	R	38422i	76	1403	16.4	+62 30	8.8	9.4	Go	3	..	38764i
27	2648	16.1	+30 6	7.83	8.83	Ko	3	..	38422i	77	1638	16.4	+58 52	6.90	7.90	Ko	6	..	38764i
28	2420	16.1	+28 7	8.2	9.0	G5	2	..	17783i	78	1993	16.4	+51 48	9.2	9.8	Go	1	..	38736i
29	4087	16.1	-11 8	8.2	9.3	K2	3	..	41198b	79	2218	16.4	+47 17	7.7	8.7	Ko	4	..	38741i
30	3931	16.1	-11 44	8.5	9.1	Go	3	..	41198b	80	2592	16.4	+41 20	6.80	7.22	F5	7	..	37640i
31	10334	16.1	-34 16	8.9	9.2	F5	4	..	39299b	81	2994	16.4	+ 5 19	8.9	9.9	Ko	1	..	37729i
32	10242	16.1	-35 36	9.8	10.6	Go	2	..	21508b	82	2956	16.4	- 0 31	8.1	9.1	Ko	3	..	37729i
33	10095	16.1	-36 41	8.2	8.6	Ko	8	..	21508b	83	3958	16.4	- 8 59	9.7	10.3	Go	2	..	41222b
34	9819	16.1	-41 11	9.8	11.0	Go	1	..	37602b	84	11655	16.4	-30 2	8.78	9.2	Ko	4	..	40714b
35	10323	16.1	-43 4	9.2	11.0	K5	1	..	37602b	85	11901	16.4	-31 21	9.9	9.6	F2	2	..	39299b
36	10071	16.1	-44 48	10.6	9.8	Go	2	..	37602b	86	9561	16.4	-40 17	9.6	10.3	F5	2	..	21508b
37	6729	16.1	-56 59	6.9	8.1	Ko	9	..	23021b	87	9821	16.4	-41 36	10.4	10.7	Fo	1	..	37602b
38	5953	16.1	-59 7	9.0	8.8	B9	4	..	23021b	88	10075	16.4	-44 24	10.3	9.5	F8	1	..	37602b
39	3581	16.1	-63 6	9.2	9.2	B9	2	..	19750b	89	10074	16.4	-44 34	10.1	9.0	B9	4	..	37602b
40	2773	16.1	-66 12	9.9	10.9	Ko	3	..	21824b	90	9579	16.4	-49 46	11.0	10.0	Ao	2	..	37909b
41	2037	16.1	-70 19	9.2	9.7	F8	3	..	14146b	91	6733	16.4	-56 29	10.1	10.7	Go	1	..	23021b
42	1782	16.1	-72 12	9.7	9.7	Ao	4	..	14146b	92	5954	16.4	-59 10	9.7	9.7	B9	2	..	23021b
43	1158	16.1	-75 34	var.	var.	Nb	..	R	M	93	5955	16.4	-59 40	8.9	9.2	Fo	4	..	23021b
44	4183	16.2	- 6 28	7.57	8.07	F8	7	..	41558b	94	1563	16.5	+58 29	8.4	9.6	K5	3	..	38764i
45	3932	16.2	-11 12	8.3	9.3	Ko	3	..	41198b	95	2378	16.5	+49 44	9.32	9.38	A2	2	..	38736i
46	10836	16.2	-26 38	8.2	9.2	K5	5	..	40576b	96	2759	16.5	+21 25	8.7	9.3	Go	3	..	37720i
47	12175	16.2	-30 6	10.24	10.4	K5	1	..	40714b	97	2957	16.5	+18 55	9.3	9.3	A	1	..	37720i
48	10480	16.2	-33 21	8.9	9.6	Go	4	..	39299b	98	3050	16.5	- 1 39	8.9	9.7	G5	3	..	41558b
49	10481	16.2	-33 48	7.50	7.7	Ao	4	0.9	43316b	99	4187	16.5	- 6 50	9.7	10.0	Fo	2	..	41222b
50	10335	16.2	-34 21	7.87	9.2	K2	4	..	39299b	100	4243	16.5	-12 20	9.9	10.5	Go	1	..	40584b

## THE HENRY DRAPER CATALOGUE.

136600

15<sup>h</sup> 16<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4317	16.5	-17 54	9.1	9.7	Go	3	..	40295b	51	9046	16.7	-51 48	8.6	7.8	B <sub>9</sub>	8	..	40421b
2	3938	16.5	-22 37	8.7	9.1	Ao	7	..	40576b	52	5915	16.7	-58 10	9.7	10.2	F <sub>8</sub>	1	..	23021b
3	10896	16.5	-25 7	7.60	9.0	K <sub>2</sub>	6	..	40576b	53	2435	16.7	-69 2	10.0	10.0	Ao	2	..	14146b
4	10485	16.5	-33 15	9.5	9.8	F <sub>8</sub>	4	..	39299b	54	2724	16.8	+31 49	6.86	7.28	F <sub>5</sub>	6	..	37800i
5	10248	16.5	-39 0	9.6	9.6	Ao	5	..	21508b	55	2681	16.8	+25 56	8.3	9.3	Ko	1	..	17783i
6	10077	16.5	-44 26	10.1	9.8	Ko	1	..	37602b	56	2821	16.8	+22 16	9.1	10.1	Ko	2	..	37720i
7	9880	16.5	-45 48	7.0	7.6	G <sub>5</sub>	8	..	37909b	57	3015	16.8	+ 8 48	8.9	9.5	Go	3	..	11333b
8	10009	16.5	-46 6	9.1	9.0	Ko	2	..	37909b	58	3014	16.8	+ 3 43	8.9	9.5	Go	4	..	37729i
9	9935	16.5	-47 40	10.3	9.5	Ao	2	..	37909b	59	4007	16.8	- 7 54	9.4	10.0	Go	2	..	41222b
10	9580	16.5	-49 26	9.1	9.8	Ko	2	..	37909b	60	4047	16.8	-19 9	9.4	10.3	K <sub>2</sub>	1	..	40295b
11	6480	16.5	-54 27	10.4	10.4	B <sub>9</sub>	2	..	23021b	61	4221	16.8	-20 21	9.7	10.3	G <sub>5</sub>	2	..	40622b
12	6735	16.5	-56 21	8.3	8.7	Ao	7	..	40421b	62	10839	16.8	-27 4	8.9	9.2	Ko	2	..	41209b
13	5956	16.5	-59 24	8.8	9.4	K <sub>2</sub>	5	..	23021b	63	11314	16.8	-28 49	8.9	11.0	K <sub>2</sub>	1	..	40714b
14	5769	16.5	-60 9	10.0	10.0	Ao	1	..	23021b	64	10103	16.8	-36 30	4.69	4.52	B <sub>3</sub>	..	O, R	28,210
15	1827	16.5	-71 40	8.9	9.7	G <sub>5</sub>	3	..	14146b	65	9938	16.8	-47 39	9.2	9.8	K <sub>2</sub>	1	..	37909b
16	1559	16.5	-73 30	8.9	9.0	A <sub>2</sub>	6	..	14146b	66	9353	16.8	-50 8	9.68	11.1	K	1	..	39069b
17	1603	16.6	+59 53	8.56	9.74	K <sub>5</sub>	1	..	38764i	67	9351	16.8	-50 32	8.9	9.0	Ko	4	..	37909b
18	2863	16.6	+13 53	7.85	8.41	Go	4	..	37689i	68	9350	16.8	-50 57	10.6	9.4	A <sub>2</sub>	3	..	40421b
19	3013	16.6	+ 3 34	9.8	10.8	K	1	R	37729i	69	6739	16.8	-57 1	10.7	10.7	B <sub>8</sub>	3	..	23021b
20	2948	16.6	+ 2 19	10.5	11.3	G <sub>5</sub>	1	..	16850b	70	4937	16.8	-61 23	8.6	9.4	K <sub>2</sub>	2	..	19750b
21	4088	16.6	-19 42	9.9	10.8	G <sub>5</sub>	1	..	40622b	71	2775	16.8	-66 31	9.2	9.3	A <sub>2</sub>	7	..	21824b
22	4217	16.6	-20 49	8.9	9.4	Ao	4	..	40576b	72	2864	16.8	-67 58	5.96	7.5	Ko	..	..	36121b
23	3939	16.6	-22 13	9.7	9.7	F <sub>5</sub>	3	..	40576b	73	504	16.9	+81 4	9.2	9.8	Go	3	..	37809i
24	11658	16.6	-30 3	9.48	9.6	Ko	2	..	40714b	74	1867	16.9	+52 39	8.8	9.4	Go	2	..	38736i
25	10101	16.6	-36 38	9.0	9.3	F <sub>8</sub>	4	..	21508b	75	2949	16.9	+ 2 10	10.5	11.5	Ko	1	..	16850i
26	10250	16.6	-38 14	9.5	10.4	Go	3	..	21508b	76	4060	16.9	- 5 15	8.30	9.37	K <sub>2</sub>	3	..	41558b
27	10251	16.6	-38 20	9.6	10.7	A <sub>5</sub>	2	..	21508b	77	4139	16.9	-14 9	8.9	9.0	A <sub>2</sub>	3	..	41198b
28	9827	16.6	-41 26	9.2	10.3	G <sub>5</sub>	3	..	37602b	78	3943	16.9	-22 33	8.7	8.6	Fo	7	..	40576b
29	10015	16.6	-46 11	9.1	9.8	K <sub>2</sub>	1	..	37909b	79	10251	16.9	-35 50	8.9	10.1	Ko	3	..	21508b
30	6736	16.6	-56 34	10.2	10.7	F <sub>8</sub>	2	..	23021b	80	9832	16.9	-41 58	8.9	9.3	Fo	5	..	37602b
31	7034	16.6	-57 12	10.4	10.4	Ao	3	..	23021b	81	10341	16.9	-42 19	10.3	11.2	K <sub>5</sub>	1	..	37602b
32	5959	16.6	-59 48	9.2	8.3	A	4	..	19750b	82	9863	16.9	-43 28	10.1	9.5	Ao	3	..	37602b
33	4936	16.6	-61 36	8.6	8.2	B <sub>5</sub>	7	..	19750b	83	6534	16.9	-55 41	9.9	10.7	G <sub>5</sub>	1	..	23021b
34	3167	16.6	-64 59	9.3	9.3	B <sub>9</sub>	4	..	21824b	84	7035	16.9	-57 14	10.4	10.7	F <sub>2</sub>	1	..	23021b
35	3050	16.6	-65 41	9.5	10.3	G <sub>5</sub>	6	R	21824b	85	R	16.9	-58 13	..	..	Ko	1	..	23021b
36	3051	16.6	-65 41	9.0	9.8	G <sub>5</sub>	3	..	21824b	86	5966	16.9	-59 55	8.5	8.6	A <sub>3</sub>	5	O,3	23021b
37	2863	16.6	-67 24	9.5	10.3	G <sub>5</sub>	3	..	21824b	87	5773	16.9	-61 4	9.0	8.8	B <sub>8</sub>	4	..	19750b
38	2348	16.6	-69 20	10.3	10.3	Ao	1	..	14146b	88	4473	16.9	-62 15	8.3	9.4	K <sub>2</sub>	1	..	19750b
39	2349	16.6	-69 48	8.9	9.7	G <sub>5</sub>	3	..	14146b	89	3052	16.9	-66 4	9.0	9.8	G <sub>5</sub>	5	..	21824b
40	1828	16.6	-71 12	9.9	10.0	A <sub>2</sub>	2	..	14146b	90	2865	16.9	-67 30	9.2	9.8	Go	4	..	21824b
41	1786	16.6	-72 52	9.6	9.6	Ao	4	..	14146b	91	793	17.0	+69 31	7.34	8.34	Ko	7	..	38737i
42	1033	16.6	-76 11	9.0	9.3	F <sub>2</sub>	3	..	40252b	92	1773	17.0	+53 6	9.1	9.6	F <sub>8</sub>	1	..	38736i
43	2902	16.7	+25 20	6.44	7.44	Ko	7	..	17783i	93	1868	17.0	+52 38	9.2	9.7	F <sub>8</sub>	1	..	38736i
44	3770	16.7	- 3 44	9.4	9.5	A <sub>2</sub>	3	..	41558b	94	2804	17.0	+23 33	8.3	8.9	Go	5	..	37720i
45	10898	16.7	-25 29	8.9	9.5	Ko	5	..	40576b	95	2864	17.0	+14 40	var.	var.	Md	..	R	M
46	11311	16.7	-29 0	6.61	7.1	Ko	7	..	41209b	96	3026	17.0	+ 5 57	7.7	8.1	F <sub>5</sub>	8	..	37729i
47	10189	16.7	-38 3	9.3	9.3	A <sub>2</sub>	5	..	21508b	97	4009	17.0	- 7 27	10.1	10.7	Go	2	..	45507b
48	9860	16.7	-43 45	10.1	10.1	A <sub>2</sub>	2	..	37602b	98	4008	17.0	- 7 41	10.3	10.8	F <sub>8</sub>	2	..	45507b
49	9900	16.7	-49 0	10.6	9.6	Ao	3	..	37909b	99	4186	17.0	-14 31	9.7	10.7	Ko	2	..	40584b
50	9583	16.7	-49 45	9.3	9.8	K <sub>2</sub>	1	..	37909b	100	4089	17.0	-15 42	8.7	9.2	F <sub>8</sub>	5	..	40622b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

136700

15<sup>h</sup> 17<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4067	17.0	-16 32	9.4	9.8	F5	3	..	40622b	51	2453	17.3	+44 48	5.88	6.16	Fo	8	0,9	38496i
2	4089	17.0	-20 6	10.6	10.8	G	1	..	40622b	52	2488	17.3	+43 3	8.7	9.3	Go	4	..	3764oi
3	10842	17.0	-26 20	6.78	7.8	Ko	8	..	41209b	53	2725	17.3	+31 44	var.	var.	Md	3	R	38734i
4	10342	17.0	-42 38	9.3	11.0	K5	2	..	37602b	54	2850	17.3	+24 42	7.16	7.16	Ao	8	0,10	17783i
5	9944	17.0	-47 30	9.9	9.5	Ao	3	..	37909b	55	2855	17.3	+16 51	7.6	8.0	F5	4	..	3772oi
6	9586	17.0	-49 31	9.3	9.8	Ko	1	..	37909b	56	2951	17.3	+ 2 21	10.5	11.1	Go	2	..	16850b
7	8265	17.0	-52 22	7.5	8.4	Ko	7	..	40421b	57	4090	17.3	-10 51	8.1	8.2	A2	7	..	41198b
8	..	17.0	-66 46	..	..	Ko	2	..	21824b	58	4143	17.3	-13 14	9.4	10.5	K2	2	..	41198b
9	1185	17.1	+63 31	8.6	8.7	A3	4	..	38764i	59	4144	17.3	-13 26	8.9	9.7	G5	2	..	41198b
10	2596	17.1	+41 35	8.2	8.5	F2	3	E	3764oi	60	4049	17.3	-18 58	10.1	10.2	A3	2	..	40295b
11	3008	17.1	+18 48	7.6	8.6	Ko	5	..	3772oi	61	10904	17.3	-25 40	9.7	9.8	G5	3	..	40576b
12	4189	17.1	- 6 57	9.4	10.2	G5	2	..	41222b	62	10344	17.3	-34 23	8.6	8.6	Go	7	..	39299b
13	4088	17.1	-10 18	7.91	8.91	Ko	5	..	41198b	63	9891	17.3	-45 35	9.9	9.5	B9	3	..	37602b
14	11910	17.1	-31 57	8.2	9.2	K5	4	..	39299b	64	9950	17.3	-47 30	9.1	8.9	Ko	3	..	37909b
15	10088	17.1	-44 35	8.9	9.2	Ko	4	..	37602b	65	9592	17.3	-49 15	9.2	9.8	G5	1	..	37909b
16	9887	17.1	-45 20	9.2	9.5	Ko	3	..	37602b	66	9591	17.3	-49 31	9.7	9.2	Ao	4	..	37909b
17	9888	17.1	-45 29	9.3	9.2	Ao	4	..	37602b	67	9360	17.3	-50 34	9.7	9.5	F8	3	..	37909b
18	9946	17.1	-47 34	9.3	9.5	A2	4	..	37909b	68	6475	17.3	-53 26	10.6	10.7	A2	1	..	40421b
19	9587	17.1	-49 12	10.3	9.8	A2	1	..	37909b	69	6474	17.3	-53 46	8.9	8.9	B9	5	..	40421b
20	6742	17.1	-56 14	10.3	10.4	A2	3	..	23021b	70	6536	17.3	-55 47	9.9	10.3	F5	1	..	40421b
21	3053	17.1	-65 13	9.5	9.5	B9	4	..	21824b	71	3173	17.3	-65 0	8.70	9.2	Ao	5	R	21824b
22	2867	17.1	-67 35	9.4	10.4	Ko	2	..	21824b	72	3174	17.3	-65 0	9.3	9.3	A	5	..	21824b
23	2438	17.1	-68 20	9.0	10.0	Ko	3	..	21824b	73	3055	17.3	-65 22	9.8	9.8	B9	3	..	21824b
24	1790	17.1	-72 29	8.7	8.8	A2	6	..	14146b	74	2353	17.3	-69 17	9.5	10.3	G5	1	..	14146b
25	505	17.1	-84 25	8.9	9.9	Ko	2	..	22577b	75	768	17.3	-80 11	9.7	9.7	Ao	1	..	40252b
26	678	17.2	+72 11	5.14	6.14	Ko	8	2,9	37752i	76	2958	17.4	+19 32	8.5	9.3	G5	2	..	3772oi
27	722	17.2	+71 34	7.19	7.69	F8	5	3,7	37752i	77	2998	17.4	+ 5 2	9.1	9.7	Go	3	..	37729i
28	1048	17.2	+65 47	8.0	8.1	A2	8	..	38737i	78	4050	17.4	-18 29	8.9	9.9	Ko	4	..	40295b
29	1869	17.2	+52 17	5.52	5.60	A3	..	0,10	56,92	79	11665	17.4	-29 38	9.2	9.5	A3	3	..	40714b
30	2057	17.2	+46 37	8.8	9.8	Ko	1	..	38741i	80	12189	17.4	-30 17	9.1	9.8	F8	3	..	40714b
31	2822	17.2	+22 15	8.6	9.4	G5	2	..	3772oi	81	9811	17.4	-39 31	9.2	10.7	K2	1	..	21508b
32	2794	17.2	+10 53	8.4	8.5	A3	4	..	37689i	82	9813	17.4	-39 35	10.6	10.7	A2	2	..	21508b
33	3006	17.2	+ 4 38	9.5	10.1	G	2	..	37729i	83	10350	17.4	-42 17	9.5	9.6	A2	3	..	37602b
34	12248	17.2	-23 42	var.	var.	Md	..	R	M	84	10092	17.4	-44 56	11.0	9.8	F8	1	..	37602b
35	11915	17.2	-31 26	8.7	8.9	A5	5	..	39299b	85	9951	17.4	-48 1	9.7	9.5	K5	1	..	37909b
36	10200	17.2	-38 3	9.6	10.4	Ko	3	..	21508b	86	9910	17.4	-48 7	11.0	9.8	A	1	..	37909b
37	9575	17.2	-40 47	9.6	10.4	Ko	1	..	37602b	87	9057	17.4	-51 38	9.1	8.6	B9	5	..	40421b
38	9948	17.2	-48 3	9.5	9.2	B9	4	..	37909b	88	8278	17.4	-52 22	9.2	9.5	Fo	3	..	40421b
39	8272	17.2	-52 29	8.4	8.0	G5	7	..	40421b	89	7037	17.4	-57 57	10.6	11.4	G5	1	..	23021b
40	6488	17.2	-54 43	8.6	10.1	K2	2	..	40421b	90	4475	17.4	-62 53	9.0	9.3	Fo	2	..	19750b
41	6486	17.2	-55 3	9.90	10.7	Ko	2	..	23021b	91	3585	17.4	-63 48	8.8	9.8	Ko	2	..	19750b
42	5972	17.2	-60 4	9.2	9.2	Ao	3	0,2	23021b	92	2777	17.4	-66 19	10.8	10.8	Ao	4	..	21824b
43	5774	17.2	-60 19	8.9	9.7	G5	1	..	23021b	93	1837	17.4	-71 10	9.5	10.3	G5	1	..	14146b
44	3169	17.2	-64 39	9.1	10.1	Ko	3	..	21824b	94	900	17.5	+66 26	9.2	10.0	G5	4	..	38737i
45	3054	17.2	-65 58	8.8	9.8	Ko	6	..	21824b	95	2059	17.5	+46 1	6.76	7.76	Ko	7	..	3764oi
46	2776	17.2	-67 4	9.1	10.1	Ko	3	..	21824b	96	2824	17.5	+21 50	8.5	9.5	Ko	3	..	3772oi
47	1565	17.2	-73 50	9.9	10.2	Fo	3	..	14146b	97	3017	17.5	+ 8 10	8.7	9.7	Ko	3	0,1	11333b
48	704	17.2	-81 54	9.5	9.5	Ao	2	..	40252b	98	3000	17.5	+ 5 4	9.0	9.4	F5	4	..	37729i
49	1495	17.3	+61 43	7.33	7.89	Go	7	..	38764i	99	3051	17.5	- 1 11	8.5	9.6	K2	2	..	41558b
50	1604	17.3	+60 36	9.0	10.0	Ko	2	..	38764i	100	3962	17.5	- 8 46	9.1	9.7	Go	4	..	41222b

## THE HENRY DRAPER CATALOGUE.

136800

15<sup>h</sup> 17<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4188	m. 17.5	° 14 47	6.74	7.81	K2	6	..	41198b	51	4319	m. 17.8	° 17 37	9.9	10.7	G5	3	..	40622b
2	4091	17.5	19 26	8.29	9.4	Ko	3	..	40295b	52	11920	17.8	31 39	9.9	9.6	Ao	3	..	39299b
3	10348	17.5	27 51	10.4	10.4	G5	1	..	40714b	53	10262	17.8	35 39	8.7	9.5	G5	5	..	21508b
4	10208	17.5	38 4	10.9	10.7	Fo	1	..	21508b	54	10116	17.8	36 9	9.8	10.4	F8	3	..	21508b
5	9579	17.5	40 16	9.2	10.3	Ko	2	..	37602b	55	10213	17.8	37 13	8.7	8.9	Ko	7	..	21508b
6	9843	17.5	41 49	9.8	10.7	Ko	1	..	37602b	56	9847	17.8	41 38	9.8	10.3	A2	2	..	37602b
7	9912	17.5	48 13	7.6	7.9	B9	7	..	37909b	57	9874	17.8	43 34	7.9	7.7	B9	7	..	37602b
8	6492	17.5	54 17	9.0	9.0	Ao	4	..	40421b	58	10039	17.8	46 12	10.1	9.8	A2	3	..	37909b
9	7038	17.5	57 13	11.0	11.1	A5	1	..	23021b	59	9918	17.8	48 27	9.3	9.5	G5	2	..	37909b
10	5974	17.5	59 53	9.1	9.1	Ao	4	1,2	23021b	60	3586	17.8	63 51	8.1	8.1	B8	7	..	19750b
11	2441	17.5	68 40	9.1	9.1	Ao	5	..	14146b	61	1397	17.8	74 8	9.5	9.9	F5	2	..	14146b
12	2049	17.5	70 8	9.0	10.0	Ko	3	..	14146b	62	2169	17.9	50 48	9.0	10.0	Ko	2	..	38736i
13	1005	17.5	78 25	7.6	7.9	F2	4	..	13442b	63	2904	17.9	25 36	7.8	7.8	Ao	7	..	17783i
14	901	17.6	+66 38	9.1	9.7	Go	3	..	38737i	64	2853	17.9	24 45	9.61	9.67	A2	1	..	17783i
15	1405	17.6	+62 30	8.2	9.2	Ko	4	..	38764i	65	3985	17.9	2 55	8.8	9.8	Ko	4	..	41558b
16	2727	17.6	+31 14	9.08	9.86	G5	2	..	38422i	66	4070	17.9	16 13	7.60	8.60	Ko	5	..	40295b
17	4012	17.6	8 5	9.4	10.4	Ko	1	..	41222b	67	10497	17.9	33 41	9.0	9.9	Go	3	..	39299b
18	3963	17.6	8 31	9.7	10.8	K2	1	..	41222b	68	10214	17.9	37 59	10.4	10.7	Go	1	..	21508b
19	4092	17.6	11 6	8.7	9.9	K5	3	..	41198b	69	9824	17.9	40 1	9.72	10.1	Go	3	..	21508b
20	4093	17.6	19 22	9.9	9.7	F5	3	..	40622b	70	10361	17.9	42 57	9.3	9.8	F5	5	..	37602b
21	12251	17.6	23 43	8.5	8.6	Ao	6	..	40576b	71	9961	17.9	47 24	9.3	9.2	Ko	3	..	37909b
22	10846	17.6	26 53	8.3	8.9	F8	4	..	41209b	72	9919	17.9	48 26	9.9	9.2	A2	4	..	37909b
23	9580	17.6	40 51	9.0	9.2	A2	5	..	19404b	73	9372	17.9	50 12	10.3	10.1	A	1	..	39069b
24	6493	17.6	54 15	9.8	9.8	Ao	2	..	40421b	74	9371	17.9	50 47	9.0	9.0	Ko	4	..	37909b
25	6540	17.6	55 36	10.3	10.4	A3	2	..	23021b	75	6477	17.9	53 41	9.4	10.4	Ko	1	..	40421b
26	5919	17.6	58 51	9.2	9.2	Ko	4	..	23021b	76	6542	17.9	55 41	10.4	10.4	Ao	2	..	23021b
27	4939	17.6	62 2	8.7	9.2	Ko	1	..	19750b	77	5778	17.9	60 56	8.9	8.8	B9	5	..	19750b
28	4477	17.6	63 4	8.3	8.3	B8	5	..	19750b	78	3587	17.9	63 34	9.3	9.8	F8	2	..	19750b
29	1566	17.6	73 19	9.7	10.2	F8	2	..	14146b	79	3057	17.9	65 36	9.2	9.2	Ao	6	..	21824b
30	1163	17.6	75 37	9.7	9.7	Ao	2	..	40252b	80	904	18.0	+66 20	8.8	9.3	F8	6	..	38737i
31	2928	17.7	+12 56	6.20	6.20	Ao	9	..	37689i	81	1406	18.0	+62 50	6.64	7.71	K2	7	..	38764i
32	2946	17.7	+7 41	9.1	9.4	F2	3	0,1	11333b	82	1606	18.0	+60 44	7.44	7.72	Fo	7	R	38764i
33	2952	17.7	+2 34	8.6	9.0	F5	5	..	37729i	83	1744	18.0	+55 41	8.0	8.4	F5	6	..	38736i
34	3071	17.7	+1 47	8.7	9.7	Ko	5	..	37729i	84	2764	18.0	+21 17	8.5	8.8	Fo	6	..	37720i
35	4133	17.7	10 8	8.31	9.09	G5	4	..	41198b	85	2836	18.0	+10 17	8.5	9.5	Ko	1	..	37745i
36	4145	17.7	13 34	9.1	9.7	Go	3	..	41198b	86	2835	18.0	+9 57	8.22	9.29	K2	2	..	37689i
37	10847	17.7	26 36	8.9	10.4	K2	2	..	40714b	87	2947	18.0	+7 26	9.3	9.3	Ao	3	2,1	11333b
38	10349	17.7	27 36	8.9	9.2	Ao	4	..	41209b	88	3349	18.0	+0 49	7.24	8.24	Ko	7	..	37729i
39	10261	17.7	35 19	10.4	10.7	A2	1	..	21508b	89	3987	18.0	2 57	9.7	10.5	G5	3	..	41558b
40	10211	17.7	37 30	10.0	9.8	A2	4	..	21508b	90	4148	18.0	14 0	7.60	8.60	Ko	4	..	41198b
41	10266	17.7	39 4	8.9	9.6	Ao	4	..	21508b	91	4096	18.0	15 50	9.4	10.4	Ko	1	..	40622b
42	9584	17.7	40 8	9.42	10.7	K2	2	..	21508b	92	4071	18.0	16 22	10.6	10.7	A5	2	..	40622b
43	9583	17.7	40 19	8.2	10.1	K5	2	..	37602b	93	4095	18.0	19 24	9.2	9.4	Fo	3	..	40295b
44	9959	17.7	47 25	9.3	8.9	F5	4	..	37909b	94	10849	18.0	26 57	7.47	7.9	G5	6	..	41209b
45	9061	17.7	51 33	9.9	9.3	Ao	3	..	40421b	95	9826	18.0	39 35	8.9	10.1	Ko	3	..	21508b
46	5978	17.7	59 11	9.2	9.2	Ao	3	..	23021b	96	9586	18.0	40 55	8.9	10.6	Ma	1	5,1	37602b
47	2355	17.7	69 33	9.6	9.7	A2	3	..	14146b	97	9067	18.0	51 40	9.9	9.5	Ao	4	..	40421b
48	1605	17.8	+60 42	7.62	7.96	F2	6	R	38764i	98	8294	18.0	52 47	9.7	9.8	A2	2	..	40421b
49	2581	17.8	+33 17	5.36	5.34	B9	..	..	56,92	99	6746	18.0	56 39	7.4	7.7	B8	10	..	23021b
50	4190	17.8	14 49	10.3	11.3	Ko	1	..	40584b	100	6745	18.0	56 56	8.6	9.0	A2	8	..	23021b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

136900

15<sup>h</sup> 18<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2685	18.1	+25 59	7.38	8.38	Ko	5	..	17783i	51	3058	18.3	-65 35	10.5	10.5	Ao	2	R	21824b
2	3100	18.1	+20 46	8.3	9.3	Ko	4	..	37720i	52	2357	18.3	-69 53	9.2	10.2	Ko	2	..	14146b
3	2829	18.1	+12 26	8.3	9.1	G5	2	..	37689i	53	1570	18.3	-73 6	9.1	9.9	G5	3	..	14146b
4	3009	18.1	+3 58	9.0	9.1	A3	4	..	37729i	54	2575	18.4	+32 22	8.24	9.24	Ko	3	..	37800i
5	4193	18.1	-6 15	7.44	8.44	Ko	5	..	41558b	55	3017	18.4	+2 54	9.5	10.1	Go	3	..	16850b
6	3937	18.1	-11 57	9.4	9.9	F8	2	..	45507b	56	3940	18.4	-12 1	5.78	6.78	Ko	10	..	41198b
7	4101	18.1	-22 0	9.1	9.7	Ko	4	..	40576b	57	4151	18.4	-13 26	8.6	8.6	Ao	6	..	41198b
8	10850	18.1	-26 38	10.6	9.8	Go	2	..	40714b	58	4224	18.4	-20 29	8.55	10.0	Ko	3	..	40622b
9	10274	18.1	-38 7	11.1	10.7	A2	2	..	21508b	59	11931	18.4	-31 21	9.7	9.3	Ao	4	..	39299b
10	10276	18.1	-38 31	10.4	10.4	Go	4	..	21508b	60	10268	18.4	-35 26	9.8	10.4	F2	2	..	21508b
11	9881	18.1	-43 6	10.6	9.8	F5	3	..	37602b	61	10267	18.4	-35 34	6.82	7.2	A2	6	2,8	43316b
12	9374	18.1	-50 56	9.1	9.0	K5	3	..	37909b	62	10270	18.4	-36 1	10.4	11.0	K2	2	..	21508b
13	6545	18.1	-55 43	9.5	9.6	A2	3	..	40421b	63	10122	18.4	-37 3	10.9	11.0	G5	1	..	21508b
14	7041	18.1	-57 22	10.1	11.1	Ko	1	..	23021b	64	9596	18.4	-40 34	8.9	8.9	A2	5	..	19404b
15	5920	18.1	-58 15	9.2	9.7	G5	3	..	23021b	65	9888	18.4	-43 59	9.3	9.2	G5	4	..	37602b
16	2444	18.1	-68 54	8.2	9.2	Ko	5	..	14146b	66	9927	18.4	-48 42	8.0	9.0	Ko	4	..	37909b
17	2053	18.1	-70 22	8.9	9.7	G5	3	..	14146b	67	9604	18.4	-49 28	8.1	9.2	K2	3	..	37909b
18	560	18.2	+75 38	8.22	9.00	G5	4	..	37809i	68	6483	18.4	-53 25	8.3	8.0	B8	8	..	40421b
19	609	18.2	+74 24	6.66	7.66	Ko	8	..	37809i	69	6482	18.4	-53 57	7.3	8.1	Ko	8	..	40421b
20	906	18.2	+66 36	9.4	9.9	F8	2	..	38737i	70	6548	18.4	-55 5	9.32	9.8	G5	2	..	40421b
21	1742	18.2	+54 17	7.60	7.66	A2	7	..	38736i	71	6549	18.4	-56 1	10.1	10.1	Ao	2	..	40421b
22	2060	18.2	+46 43	7.9	8.9	Ko	3	..	38741i	72	7044	18.4	-57 12	9.0	9.8	B9	6	..	23021b
23	2961	18.2	+19 17	7.07	8.07	Ko	6	..	37720i	73	7045	18.4	-57 46	10.6	10.7	A3	2	..	23021b
24	2773	18.2	+16 37	7.9	8.7	G5	3	..	37720i	74	5921	18.4	-59 4	8.8	8.3	Ao	8	..	23021b
25	2930	18.2	+13 44	8.01	8.57	Go	4	..	37689i	75	4942	18.4	-62 2	9.2	9.2	Ao	1	..	19750b
26	2796	18.2	+11 43	9.1	9.7	G	1	..	37689i	76	3591	18.4	-63 58	8.3	8.6	Fo	4	..	19750b
27	3030	18.2	+6 24	8.1	8.5	F5	6	..	37729i	77	3059	18.4	-65 47	7.01	6.5	B9	6	..	36002b
28	4136	18.2	-10 7	9.66	9.72	A2	2	..	41222b	78	1794	18.4	-72 49	9.3	9.6	Fo	3	..	14146b
29	4150	18.2	-13 14	9.4	10.0	Go	2	..	40584b	79	1572	18.4	-73 47	8.2	9.4	K5	5	..	14146b
30	4072	18.2	-16 20	9.4	9.9	F8	2	..	40622b	80	1167	18.4	-75 59	8.0	8.1	A2	7	..	40252b
31	11929	18.2	-31 8	9.2	9.8	Go	2	..	39299b	81	4152	18.5	-13 57	7.67	8.67	Ko	5	..	41198b
32	10277	18.2	-38 45	9.2	9.6	A2	4	..	21508b	82	4193	18.5	-15 2	8.91	9.91	Ko	3	..	40622b
33	9827	18.2	-39 22	5.38	6.2	Ao	..	1,9R	28,210	83	4322	18.5	-17 12	9.7	10.3	Go	4	..	40622b
34	9591	18.2	-40 14	9.02	9.3	A5	4	..	19404b	84	4053	18.5	-18 45	9.7	10.2	F8	2	..	40295b
35	9884	18.2	-43 47	8.3	7.4	B8	6	..	37602b	85	4226	18.5	-20 23	9.4	10.3	G5	2	..	40622b
36	9886	18.2	-43 52	9.9	9.8	K	2	..	37602b	86	..	18.5	-22 33	var.	var.	Md	..	R	M
37	10043	18.2	-46 51	6.7	8.0	G5	6	..	37909b	87	10907	18.5	-25 25	8.1	9.6	K5	3	..	40576b
38	5983	18.2	-59 28	9.2	8.9	Ao	5	..	23021b	88	11932	18.5	-31 23	9.1	9.0	F8	4	..	39299b
39	4246	18.3	-12 42	9.4	10.2	G5	2	0,1	40584b	89	10502	18.5	-33 27	9.5	10.3	Go	1	..	39299b
40	4321	18.3	-17 24	10.3	10.9	Go	1	..	40622b	90	10124	18.5	-36 19	9.8	9.5	G5	5	..	21508b
41	3948	18.3	-22 22	9.1	10.0	K5	3	..	40576b	91	10221	18.5	-37 9	8.7	8.6	Fo	8	..	21508b
42	10500	18.3	-33 42	9.2	9.6	F5	4	..	39299b	92	10102	18.5	-44 14	11.0	10.1	A2	2	..	37602b
43	10219	18.3	-37 8	12.0	10.7	G5	2	..	21508b	93	8307	18.5	-53 3	9.7	9.8	A2	1	..	40421b
44	9964	18.3	-48 1	11.6	9.8	A2	1	..	37909b	94	6550	18.5	-55 51	9.0	9.2	B9	5	..	40421b
45	9383	18.3	-50 59	7.2	8.4	G5	7	..	37909b	95	5923	18.5	-58 56	9.2	9.7	Fo	2	..	23021b
46	9076	18.3	-51 31	10.3	9.5	A2	3	..	40421b	96	4945	18.5	-61 21	8.0	9.2	K2	3	..	19750b
47	8303	18.3	-52 43	6.85	7.5	Fo	5	0,9	43300b	97	4944	18.5	-61 41	9.2	9.2	Ao	2	..	19750b
48	6547	18.3	-55 10	10.16	11.0	Ko	1	..	23021b	98	4943	18.5	-61 53	9.2	9.2	Ao	2	..	19750b
49	7043	18.3	-57 8	10.4	11.0	G	1	R	23021b	99	4481	18.5	-62 24	7.9	7.9	Ao	8	..	19750b
50	7042	18.3	-57 46	9.0	10.7	K2	2	..	23021b	100	1873	18.6	+52 42	7.48	7.82	F2	6	..	38736i



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15<sup>h</sup> 18<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2286	18.6	+48 0	8.8	10.2	Ma	2	..	38741i	51	4194	18.8	- 7 6	10.6	10.6	A	1	..	41222b
2	2637	18.6	+34 34	7.31	8.31	Ko	6	..	37800i	52	4138	18.8	- 9 57	5.08	5.36	Fo	..	5,9 R	56,92
3	2425	18.6	+28 24	7.46	8.46	Ko	5	0,5	38734i	53	4076	18.8	-16 38	8.1	8.7	Go	6	R	40622b
4	2866	18.6	+14 24	8.44	9.51	K2	2	..	37745i	54	4099	18.8	-19 37	7.76	8.9	K2	3	..	40295b
5	3020	18.6	+ 7 59	8.9	8.9	B9	4	..	9475b	55	11937	18.8	-31 48	7.40	8.1	Fo	7	..	39299b
6	2961	18.6	- 0 40	6.10	6.38	Fo	10	..	37729i	56	10128	18.8	-36 31	9.8	10.6	Ko	2	..	21508b
7	3776	18.6	- 3 19	9.4	9.4	A	2	..	41558b	57	10227	18.8	-37 47	8.9	8.4	F5	7	..	21508b
8	4154	18.6	-13 15	10.3	10.4	A3	1	..	40584b	58	10289	18.8	-38 22	4.68	4.68	Ao	..	0,9 R	28,210
9	4074	18.6	-16 58	9.4	10.2	G5	3	..	40622b	59	10287	18.8	-38 23	10.0	9.2	Go	6	..	21508b
10	4097	18.6	-19 23	10.3	10.8	Ko	1	..	40622b	60	9862	18.8	-41 35	8.2	9.3	G5	4	..	19404b
11	10908	18.6	-25 50	8.9	9.8	K2	2	..	40714b	61	9906	18.8	-45 20	9.7	9.2	B9	5	..	37602b
12	11330	18.6	-28 53	9.5	10.4	Go	1	..	40714b	62	9392	18.8	-50 9	9.9	9.8	F5	1	..	39069b
13	11934	18.6	-31 47	9.4	9.3	Go	3	..	39299b	63	9390	18.8	-50 59	10.1	9.8	G5	1	..	41517b
14	10223	18.6	-37 17	10.9	11.0	G5	2	..	21508b	64	8316	18.8	-52 56	9.5	9.5	Ao	3	..	40421b
15	10225	18.6	-37 49	7.09	6.7	A2	5	..	43316b	65	5987	18.8	-59 35	8.0	7.7	B9	8	..	23021b
16	9967	18.6	-47 58	9.7	8.9	F5	4	..	37909b	66	3178	18.8	-64 11	5.72	8.0	K5	..	c,5	56,136
17	9605	18.6	-49 42	9.3	9.5	K2	2	..	37909b	67	2446	18.8	-68 12	8.4	8.5	A2	7	..	21824b
18	9080	18.6	-51 11	11.0	9.8	Ao	2	..	41517b	68	1796	18.8	-72 9	9.3	9.7	F5	2	..	14146b
19	8312	18.6	-53 3	8.6	8.1	A2	6	..	40421b	69	1174	18.8	-75 13	9.26	9.0	Ao	4	..	14146b
20	7046	18.6	-57 37	8.6	9.2	Ao	7	..	23021b	70	828	18.9	+68 12	8.6	9.6	Ko	3	..	38737i
21	5984	18.6	-59 56	8.59	8.9	Fo	4	5,3	23021b	71	2877	18.9	+39 56	5.85	7.03	K5	8	3,7	37800i
22	5782	18.6	-60 15	8.9	9.2	Ko	3	0,1	23021b	72	2681	18.9	+35 44	8.6	9.4	G5	3	..	37800i
23	3060	18.6	-65 8	9.2	9.2	Ao	4	..	21824b	73	2952	18.9	+ 6 54	9.8	10.8	Ko	1	..	11333b
24	2358	18.6	-69 28	9.2	10.0	G5	2	..	14146b	74	4015	18.9	- 8 8	8.9	9.9	Ko	3	..	41222b
25	2054	18.6	-70 7	9.8	10.2	F5	1	..	14146b	75	3965	18.9	- 8 53	9.9	10.4	F8	2	..	45507b
26	1170	18.6	-75 20	9.6	9.6	Ao	2	..	14146b	76	3949	18.9	-23 9	8.7	8.5	Fo	6	..	40576b
27	1775	18.7	+53 25	8.4	9.4	Ko	2	..	38736i	77	10782	18.9	-32 39	8.6	9.5	A5	3	..	39299b
28	2680	18.7	+35 44	8.7	9.3	Go	3	..	37800i	78	10131	18.9	-36 56	10.6	10.7	Go	1	..	21508b
29	2729	18.7	+30 54	8.14	8.64	F8	5	..	38422i	79	10290	18.9	-38 57	8.6	9.6	Ko	3	..	21508b
30	2799	18.7	+11 6	8.5	9.3	G5	3	..	37689i	80	9835	18.9	-39 10	9.8	10.3	F8	3	..	21508b
31	2954	18.7	+ 2 22	8.9	10.3	Ma	1	..	16850b	81	10054	18.9	-46 7	9.3	9.8	K2	1	..	39069b
32	4194	18.7	-14 20	9.7	10.5	G5	3	..	40584b	82	9395	18.9	-50 26	9.1	8.6	Go	5	..	37909b
33	4098	18.7	-15 45	9.1	9.6	F8	2	..	40295b	83	6750	18.9	-56 58	10.3	10.3	B9	3	..	23021b
34	12264	18.7	-24 1	8.7	8.8	A5	5	..	40576b	84	5786	18.9	-60 5	9.1	8.5	B8	5	0,4	23021b
35	10910	18.7	-25 18	7.52	8.6	K2	6	..	40576b	85	3063	18.9	-65 10	9.3	10.1	G5	3	..	21824b
36	10283	18.7	-38 33	8.2	10.1	Ma	4	..	21508b	86	3062	18.9	-66 4	9.8	9.8	Ao	3	..	21824b
37	10285	18.7	-38 58	10.6	10.3	Go	2	..	21508b	87	2843	19.0	+10 48	8.7	9.5	G5	2	..	37745i
38	9891	18.7	-43 56	10.1	9.5	Ao	4	..	37602b	88	4139	19.0	- 9 17	9.4	9.5	A5	2	..	41222b
39	10050	18.7	-46 44	8.0	8.9	G5	4	..	37909b	89	4095	19.0	-10 31	9.1	9.7	Go	2	..	41222b
40	9388	18.7	-50 32	11.0	9.6	A	1	..	41517b	90	4096	19.0	-10 41	9.9	10.5	Go	2	..	45507b
41	6488	18.7	-53 12	8.5	8.1	A2	7	..	40421b	91	4250	19.0	-12 33	8.7	9.2	F8	6	..	41198b
42	6501	18.7	-54 58	9.8	9.8	Ao	4	0,3	23021b	92	4324	19.0	-17 25	10.3	10.9	Go	1	..	40622b
43	6499	18.7	-55 1	10.7	10.7	Ao	2	..	23021b	93	4055	19.0	-18 45	9.7	10.7	Ko	1	..	40295b
44	5986	18.7	-59 30	9.1	8.8	B9	5	..	23021b	94	3950	19.0	-23 0	8.7	8.2	Fo	7	..	40576b
45	5784	18.7	-60 54	9.1	8.8	Ao	4	..	19750b	95	10507	19.0	-33 10	8.9	9.5	Go	4	..	39299b
46	3061	18.7	-65 32	9.7	10.8	K2	2	..	21824b	96	10275	19.0	-35 25	10.2	11.0	Go	1	..	21508b
47	2359	18.7	-69 16	9.4	9.5	A2	4	..	14146b	97	10135	19.0	-36 32	10.2	10.4	G5	2	..	21508b
48	1845	18.7	-71 54	9.5	9.5	Ao	4	..	14146b	98	10228	19.0	-37 31	9.8	10.1	Go	3	..	21508b
49	883	18.8	+67 22	8.2	8.3	A5	6	..	38737i	99	10291	19.0	-38 25	9.2	9.2	Fo	6	..	21508b
50	2577	18.8	+31 54	8.54	9.04	F8	2	..	37800i	100	9868	19.0	-41 21	9.6	10.7	K5	1	..	19404b



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15<sup>h</sup> 19<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	9399	19.0	-51 5	10.1	9.5	Ao	3	0,1	41517b	51	4140	19.3	-9 33	10.1	10.7	Go	1	..	45507b
2	9085	19.0	-51 27	9.9	9.8	F5	2	..	40421b	52	4056	19.3	-18 31	10.1	11.1	Ko	1	..	40295b
3	8320	19.0	-52 40	9.8	9.8	Ao	1	..	40421b	53	12272	19.3	-23 19	8.2	8.8	F8	5	..	40576b
4	6554	19.0	-56 0	9.9	10.7	G5	1	..	23021b	54	10111	19.3	-44 31	9.2	9.5	Ko	3	..	37602b
5	7049	19.0	-57 37	10.1	10.4	Fo	4	..	23021b	55	10060	19.3	-46 28	10.3	9.8	A2	1	..	39069b
6	1401	19.0	-74 14	8.3	9.3	Ko	6	..	14146b	56	9978	19.3	-47 47	9.5	8.9	Ao	4	..	37909b
7	2653	19.1	+30 39	5.58	6.14	Go	..	R	56,92	57	9940	19.3	-48 17	7.9	8.6	F5	6	..	37909b
8	2653	19.1	+30 39	6.08	6.64	Go	..	R	56,92	58	9093	19.3	-51 14	9.9	10.1	K2	1	..	41517b
9	2660	19.1	+29 23	9.2	10.0	G5	1	..	38734i	59	8326	19.3	-53 3	8.7	9.2	F8	3	..	40421b
10	2830	19.1	+11 56	8.9	9.3	F5	3	..	37689i	60	6506	19.3	-54 39	7.8	8.0	Ao	7	..	40421b
11	2955	19.1	+2 41	9.5	9.9	F5	3	..	16850b	61	6557	19.3	-55 10	9.07	9.8	Ko	4	..	40421b
12	3777	19.1	-4 0	8.9	9.7	G5	2	..	41558b	62	5929	19.3	-58 45	9.7	9.7	Ao	4	..	23021b
13	3880	19.1	-4 45	8.7	9.7	Ko	3	..	41558b	63	5992	19.3	-59 7	8.8	9.4	Go	2	..	23021b
14	4325	19.1	-18 2	9.9	11.3	Ma	1	..	40295b	64	4482	19.3	-62 40	8.0	8.8	G5	7	..	19750b
15	4103	19.1	-21 41	7.71	8.9	K2	6	..	40576b	65	..	19.3	-66 30	..	..	K5	1	..	21824b
16	3951	19.1	-22 33	9.4	9.5	Ko	3	..	40576b	66	3021	19.4	+2 52	9.8	10.3	F8	2	..	16850b
17	10508	19.1	-33 9	9.6	9.9	Go	2	..	39299b	67	4196	19.4	-14 52	10.1	10.2	A2	1	..	40584b
18	10277	19.1	-35 22	9.5	10.7	Ko	1	..	21508b	68	11943	19.4	-31 52	9.7	10.1	Go	2	..	39299b
19	10279	19.1	-35 50	7.55	7.6	Ao	5	2,3	40701b	69	9613	19.4	-40 11	9.08	9.2	Ao	5	2,4	19404b
20	10136	19.1	-36 47	8.9	9.2	Fo	6	..	21508b	70	9879	19.4	-41 59	9.3	9.2	F8	6	R	37602b
21	10294	19.1	-38 40	9.2	9.2	F8	3	..	21508b	71	10387	19.4	-42 23	10.1	10.3	Fo	3	..	37602b
22	9976	19.1	-47 34	9.1	9.2	Ko	4	..	37909b	72	9898	19.4	-43 16	9.2	9.2	A5	6	..	37602b
23	7048	19.1	-58 1	10.3	10.4	A2	3	..	23021b	73	7052	19.4	-58 1	10.0	11.0	Ko	1	..	23021b
24	1798	19.1	-73 2	9.7	10.8	K2	1	..	14146b	74	5930	19.4	-58 16	9.3	9.7	F5	3	..	23021b
25	3010	19.2	+18 12	7.67	7.95	Fo	5	..	37720i	75	5931	19.4	-58 36	9.0	9.4	K2	3	..	23021b
26	2935	19.2	+13 43	8.3	9.1	G5	2	..	37689i	76	2878	19.4	-67 49	8.8	8.8	Ao	7	..	21824b
27	3031	19.2	+9 16	7.58	8.76	K5	5	..	37689i	77	1403	19.4	-74 24	9.0	9.0	B9	6	..	14146b
28	2963	19.2	-0 11	7.08	7.14	A2	6	..	37729i	78	841	19.4	-79 24	8.5	9.5	Ko	1	..	40252b
29	3881	19.2	-4 54	9.2	10.4	K5	2	..	41558b	79	654	19.4	-82 54	8.6	8.5	B5	6	..	13442b
30	10862	19.2	-26 13	8.5	8.7	F2	6	..	40714b	80	1798	19.5	+56 3	7.96	9.14	K5	3	..	38736i
31	10860	19.2	-26 24	8.0	9.2	Ma	4	..	40714b	81	2908	19.5	+25 39	8.1	8.5	F5	4	E	17783i
32	12212	19.2	-30 13	9.66	9.8	Go	2	..	40714b	82	2800	19.5	+10 54	7.19	7.19	Ao	6	..	37689i
33	10297	19.2	-38 16	9.2	9.3	Ao	6	..	21508b	83	3032	19.5	+9 27	8.1	8.9	G5	3	..	37689i
34	10298	19.2	-38 42	8.6	9.3	G5	2	..	21508b	84	3023	19.5	+8 50	7.9	8.4	F8	6	..	37689i
35	10383	19.2	-42 31	9.1	10.7	K5	2	..	37602b	85	3023	19.5	+3 25	9.8	10.4	Go	2	..	37729i
36	10056	19.2	-46 45	10.6	9.5	F5	2	..	37909b	86	3953	19.5	-22 58	9.4	10.3	K5	1	..	40576b
37	9938	19.2	-48 38	10.3	9.5	B9	2	..	37909b	87	10361	19.5	-27 34	10.4	9.8	A2	2	..	40714b
38	6753	19.2	-56 11	9.6	10.1	F8	4	..	23021b	88	10364	19.5	-34 9	9.8	10.7	Go	1	..	39299b
39	5927	19.2	-58 37	9.0	9.1	Ao	7	R	23021b	89	10281	19.5	-35 36	9.2	9.8	Fo	4	..	21508b
40	3180	19.2	-64 19	9.1	10.1	Ko	1	..	19750b	90	10234	19.5	-37 7	8.2	8.7	Ko	6	..	21508b
41	3181	19.2	-64 41	9.8	9.8	A	2	..	21824b	91	10235	19.5	-37 30	8.9	9.2	Fo	7	..	21508b
42	3182	19.2	-64 47	9.3	9.3	Ao	4	..	21824b	92	10305	19.5	-38 7	10.4	11.0	Ko	2	..	21508b
43	2056	19.2	-71 4	8.8	8.8	B9	6	..	14146b	93	9848	19.5	-39 32	7.24	7.6	Ao	3	..	43316b
44	709	19.2	-81 24	8.1	8.6	F8	6	..	13442b	94	10115	19.5	-44 47	10.1	9.3	Ao	3	..	37602b
45	241	19.2	-87 42	8.9	8.9	Ao	7	..	22980b	95	9942	19.5	-48 50	11.0	10.1	Ao	1	..	37909b
46	1776	19.3	+53 6	9.7	10.2	F8	2	..	38736i	96	9405	19.5	-50 32	10.6	9.8	Ao	1	..	39069b
47	2578	19.3	+32 10	7.91	8.19	Fo	4	..	37800i	97	6509	19.5	-55 4	10.4	10.4	Ao	2	..	40421b
48	3019	19.3	+3 14	9.1	9.5	F5	4	..	37729i	98	3064	19.5	-65 52	10.1	10.1	Ao	4	..	21824b
49	3020	19.3	+3 8	8.7	9.0	F2	6	..	37729i	99	1578	19.5	-73 39	8.4	9.4	Ko	4	..	14146b
50	3053	19.3	-1 50	9.5	10.5	Ko	1	..	41558b	100	582	19.6	+77 32	8.4	8.5	A2	6	..	37809i

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137200

15<sup>h</sup> 19<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2682	19.6	+35 13	8.9	9.7	G5	2	..	37800i	51	6499	19.8	-53 57	8.6	8.9	Ao	7	..	40421b
2	2910	19.6	+25 24	8.1	9.1	Ko	1	E	17783i	52	4954	19.8	-62 3	8.6	9.2	Ko	3	..	19750b
3	2956	19.6	+2 39	9.5	10.1	Go	3	..	16850b	53	1800	19.8	-72 53	9.4	10.5	K2	1	..	14146b
4	3072	19.6	+1 1	9.0	9.1	A2	4	..	37729i	54	1584	19.8	-73 26	8.9	9.9	Ko	2	..	14146b
5	4067	19.6	-5 56	9.1	10.1	Ko	2	..	41558b	55	1583	19.8	-73 46	9.5	10.5	Ko	1	..	14146b
6	4018	19.6	-8 0	9.7	10.3	Go	1	..	45507b	56	1874	19.9	+52 30	8.2	9.2	Ko	2	..	38736i
7	3968	19.6	-9 2	9.2	10.2	Ko	1	..	41222b	57	2219	19.9	+47 16	8.1	8.7	Go	5	..	38741i
8	4141	19.6	-9 59	9.9	10.5	Go	1	..	41222b	58	2859	19.9	+17 2	8.1	9.1	Ko	1	..	37720i
9	4326	19.6	-17 15	10.1	10.4	Fo	2	..	40295b	59	12221	19.9	-30 6	9.7	9.9	G5	1	..	40714b
10	4104	19.6	-21 34	7.49	8.3	Ko	7	..	40576b	60	10792	19.9	-32 41	9.5	9.8	Ao	2	..	39299b
11	10866	19.6	-26 15	9.7	9.6	F5	3	..	40714b	61	10147	19.9	-36 14	6.84	7.7	Ko	4	..	40701b
12	10363	19.6	-27 43	7.9	9.0	G5	5	..	40714b	62	10241	19.9	-37 25	8.4	9.8	K2	3	..	21508b
13	10236	19.6	-37 50	8.9	9.8	K2	4	..	21508b	63	10314	19.9	-38 16	9.3	10.4	Ko	4	..	21508b
14	10390	19.6	-42 30	8.7	8.6	Go	7	..	37602b	64	9622	19.9	-40 31	9.2	8.9	Ao	6	..	19404b
15	10389	19.6	-43 0	10.3	10.7	Go	1	..	37602b	65	9888	19.9	-41 54	8.9	8.9	A3	7	..	37602b
16	9620	19.6	-49 25	9.9	8.9	Ao	5	..	37909b	66	8336	19.9	-52 38	9.8	9.8	Ao	2	..	40421b
17	9099	19.6	-51 34	9.0	8.6	B9	6	..	40421b	67	2778	19.9	-66 8	9.6	10.4	G5	2	..	21824b
18	6512	19.6	-54 57	9.8	10.8	Ko	1	..	23021b	68	2171	20.0	+49 59	8.92	9.92	Ko	2	..	38736i
19	6754	19.6	-57 0	8.6	11.1	K2	1	..	23021b	69	2831	20.0	+12 6	8.3	8.6	Fo	4	..	37689i
20	5932	19.6	-58 26	9.6	9.7	A3	3	..	23021b	70	2957	20.0	+1 51	8.6	9.7	K2	2	..	16850b
21	3065	19.6	-65 43	9.8	10.9	K2	2	..	21824b	71	3074	20.0	+1 22	8.9	9.7	G5	3	..	37729i
22	2880	19.6	-68 0	8.7	9.7	Ko	4	..	21824b	72	4158	20.0	-13 23	9.2	9.8	Go	3	..	40584b
23	2881	19.6	-68 3	9.4	9.5	A5	4	..	21824b	73	4157	20.0	-13 37	9.1	9.6	F8	3	..	40584b
24	1123	19.6	-77 10	9.0	9.1	A2	5	..	40252b	74	4199	20.0	-15 6	8.46	8.60	A5	5	..	40295b
25	468	19.7	+80 37	8.8	9.8	Ko	2	..	37809i	75	10868	20.0	-26 33	9.7	10.4	Ko	1	..	40714b
26	885	19.7	+67 32	9.4	10.4	Ko	1	..	38737i	76	11337	20.0	-29 5	8.9	10.4	K2	1	..	40714b
27	3054	19.7	-1 54	8.9	10.3	Mb	2	..	41558b	77	10379	20.0	-34 45	10.2	10.7	Go	1	..	39299b
28	4098	19.7	-10 38	8.06	8.48	F5	7	..	41222b	78	9623	20.0	-40 37	9.6	10.7	K5	1	..	37602b
29	12276	19.7	-23 19	8.5	8.8	A5	6	..	40576b	79	9889	20.0	-41 19	10.4	10.4	F2	1	..	37602b
30	10143	19.7	-36 7	7.59	8.7	Ko	2	..	40701b	80	9890	20.0	-41 34	9.5	9.8	Go	2	..	19404b
31	R	19.7	-37 48	8.8	9.3	F8	6	..	21508b	81	9919	20.0	-46 0	9.5	9.2	Fo	3	..	39069b
32	9883	19.7	-42 3	8.4	8.9	Fo	7	..	37602b	82	9953	20.0	-48 52	10.3	9.8	G5	1	..	37909b
33	10394	19.7	-43 1	9.5	11.2	Ma	1	..	37602b	83	9413	20.0	-50 30	9.7	9.2	A2	2	..	39069b
34	10118	19.7	-44 29	9.2	9.3	G5	5	..	37602b	84	9414	20.0	-50 34	9.9	9.0	Ao	3	..	39069b
35	10064	19.7	-47 4	7.7	8.9	G5	4	..	37909b	85	6515	20.0	-54 58	9.05	9.5	Ko	4	..	40421b
36	6755	19.7	-56 39	8.4	9.2	Fo	7	..	23021b	86	6757	20.0	-57 0	8.3	10.3	Ko	4	..	23021b
37	7053	19.7	-57 34	10.2	10.3	A5	4	..	23021b	87	7055	20.0	-57 22	var.	var.	Mc	1	R	23021b
38	5934	19.7	-58 12	8.3	9.6	K2	3	..	23021b	88	2779	20.0	-66 27	10.3	10.8	F8	2	..	21824b
39	1044	19.7	-76 38	9.1	9.1	Ao	4	..	40252b	89	2883	20.0	-67 27	9.2	9.3	A2	7	..	21824b
40	4070	19.8	-5 34	7.70	9.05	Ma	4	..	41558b	90	1585	20.0	-73 43	9.4	9.7	F2	2	..	14146b
41	4069	19.8	-5 53	7.50	8.50	Ko	6	..	41558b	91	1409	20.0	-74 26	9.0	9.0	Ao	7	..	14146b
42	4079	19.8	-16 45	8.9	10.0	K2	2	..	40295b	92	561	20.1	+75 14	7.82	8.89	K2	6	..	37809i
43	10515	19.8	-33 22	8.9	9.6	A2	3	..	39299b	93	2172	20.1	+50 33	8.6	9.1	F8	3	..	38736i
44	10367	19.8	-34 15	8.3	8.9	A2	5	..	39299b	94	2801	20.1	+11 20	7.00	7.34	F2	6	..	37689i
45	10240	19.8	-37 22	9.5	8.4	Ao	8	..	21508b	95	3026	20.1	+8 8	7.9	8.7	G5	3	..	37689i
46	10313	19.8	-38 6	10.9	11.0	A5	2	..	21508b	96	3036	20.1	+6 17	9.5	10.6	K2	1	..	16850b
47	9916	19.8	-45 9	7.46	8.1	Ko	7	..	37602b	97	2958	20.1	+2 6	9.1	9.9	G5	2	..	37729i
48	9947	19.8	-48 47	11.6	9.8	A2	2	..	37909b	98	2964	20.1	-1 8	9.1	9.6	F8	2	..	41558b
49	9106	19.8	-51 21	9.2	10.7	Ko	3	..	41517b	99	4071	20.1	-5 24	8.7	8.7	Ao	4	..	41558b
50	6498	19.8	-53 45	8.2	8.9	Ko	7	..	40421b	100	4159	20.1	-13 44	9.4	9.5	A5	2	..	40584b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

137300

15<sup>h</sup> 20<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4103	20.1	-15 22	9.7	10.2	F8	1	..	40584b	51	10245	20.4	-37 29	10.0	10.4	Go	3	..	21508b
2	4106	20.1	-21 55	9.4	10.0	G5	2	..	40576b	52	10125	20.4	-44 57	9.66	9.5	G5	2	..	37602b
3	10870	20.1	-26 22	9.5	9.5	Ko	3	..	40714b	53	10076	20.4	-46 43	10.3	9.8	A5	1	..	39069b
4	11339	20.1	-28 20	10.4	10.1	F2	2	..	40714b	54	5943	20.4	-58 9	8.0	8.0	A2	7	..	23021b
5	10285	20.1	-35 59	9.5	9.9	G5	2	..	21508b	55	3188	20.4	-64 42	8.3	9.3	Ko	6	..	21824b
6	10284	20.1	-36 1	10.2	10.1	Go	2	..	21508b	56	2964	20.5	+19 36	9.1	10.1	Ko	1	..	37720i
7	10151	20.1	-36 51	10.9	10.6	Go	3	..	21508b	57	4082	20.5	-16 49	10.1	11.1	Ko	1	..	40622b
8	9907	20.1	-43 14	9.5	9.2	A5	5	..	37602b	58	4063	20.5	-18 14	9.9	10.2	Fo	2	..	40295b
9	10123	20.1	-44 15	9.1	8.6	Ao	7	..	37602b	59	10247	20.5	-37 40	10.0	11.0	G5	2	..	21508b
10	9920	20.1	-45 47	9.9	9.5	F8	1	..	39069b	60	9866	20.5	-40 1	9.18	9.3	Go	2	..	41391b
11	10072	20.1	-46 27	9.9	9.8	Fo	2	..	39069b	61	9927	20.5	-45 7	9.22	8.9	F8	4	..	37602b
12	9954	20.1	-48 6	8.1	9.5	Mb	3	..	39069b	62	9634	20.5	-49 48	9.9	8.9	A2	4	..	37909b
13	9628	20.1	-49 6	7.4	7.9	A2	7	..	37909b	63	9119	20.5	-51 15	9.7	9.2	B9	4	..	41517b
14	9417	20.1	-50 10	9.7	9.3	B9	3	..	37909b	64	6504	20.5	-53 21	7.4	7.5	F5	8	..	40421b
15	6563	20.1	-55 26	8.7	8.3	Ao	7	..	40421b	65	6519	20.5	-55 4	9.8	10.3	F8	2	..	40421b
16	711	20.1	-81 48	8.1	9.5	Ma	1	..	13442b	66	1852	20.5	-71 18	6.70	6.5	B8	8	..	35947b
17	4253	20.2	-12 31	8.5	8.6	A2	4	..	41198b	67	2291	20.6	+48 36	9.9	10.7	G5	1	..	38741i
18	4061	20.2	-18 10	7.59	7.65	A2	7	..	40295b	68	2652	20.6	+38 32	7.62	8.62	Ko	4	..	37800i
19	10919	20.2	-25 16	8.3	8.9	Ao	6	..	40714b	69	2856	20.6	+15 25	8.1	8.2	A5	4	..	37689i
20	10367	20.2	-27 57	10.9	10.4	G5	1	..	40714b	70	2855	20.6	+14 57	8.34	9.34	Ko	2	..	37689i
21	10317	20.2	-39 1	8.9	9.5	Ko	4	..	21508b	71	2834	20.6	+12 30	9.1	9.9	G5	1	..	37689i
22	9894	20.2	-42 2	10.4	10.4	Fo	2	..	37602b	72	2804	20.6	+11 0	8.7	9.5	G5	1	..	37689i
23	9908	20.2	-43 45	7.9	7.7	A2	8	..	37602b	73	2965	20.6	-0 54	7.03	7.37	F2	7	..	37729i
24	9922	20.2	-45 38	9.9	9.5	F8	3	..	37602b	74	3779	20.6	-4 9	9.4	10.4	Ko	1	..	41549b
25	9629	20.2	-49 57	11.6	9.5	A2	3	..	37909b	75	4200	20.6	-14 58	9.9	11.0	K2	1	..	40584b
26	6760	20.2	-56 10	8.5	9.8	Ko	2	..	40421b	76	9903	20.6	-41 18	8.9	9.3	F8	4	..	19404b
27	7057	20.2	-57 48	8.6	9.2	B9	7	..	23021b	77	9905	20.6	-41 45	9.5	9.9	A3	4	..	37602b
28	3186	20.2	-64 10	8.9	9.2	F2	3	..	19750b	78	10413	20.6	-42 48	9.3	9.5	F8	3	..	37602b
29	..	20.2	-65 51	..	..	Ko	2	..	21824b	79	9914	20.6	-43 25	9.5	9.0	A2	5	..	37602b
30	3067	20.2	-66 2	9.8	9.8	Ao	3	..	21824b	80	5810	20.6	-60 21	9.1	8.9	B9	3	..	19750b
31	2368	20.2	-70 2	8.61	9.4	Ko	4	..	14146b	81	5811	20.6	-61 4	8.8	8.7	B9	5	..	19750b
32	1046	20.2	-76 39	9.1	9.1	B9	4	..	40252b	82	2780	20.6	-66 9	10.7	10.7	Ao	3	..	21824b
33	510	20.2	-84 8	5.66	5.9	A2	..	0,9 R	56,136	83	2781	20.6	-66 50	10.0	10.1	A2	3	..	21824b
34	439	20.2	-85 46	9.4	9.9	F8	2	..	13458b	84	2885	20.6	-67 8	6.9	6.9	B8	5	..	36121b
35	833	20.3	+70 7	9.6	10.4	G5	2	..	38737i	85	2370	20.6	-69 53	9.6	9.7	A2	3	..	14146b
36	2767	20.3	+21 45	8.9	9.9	Ko	3	..	37720i	86	1853	20.6	-71 55	10.0	10.0	Ao	1	..	14146b
37	3025	20.3	+3 33	8.9	9.7	G5	2	..	37729i	87	1802	20.6	-73 2	5.65	5.8	B5p	..	R	28,210
38	4081	20.3	-17 3	10.6	11.2	Go	1	..	40622b	88	844	20.6	-79 51	7.9	8.9	Ko	4	5,2	40252b
39	4233	20.3	-21 1	7.10	7.9	Ko	8	..	40576b	89	1410	20.7	+62 23	5.80	5.78	B9	10	..	38764i
40	12226	20.3	-30 58	7.47	8.3	F5	9	..	40714b	90	2284	20.7	+45 37	6.24	7.31	K2	6	2,7	38496i
41	9861	20.3	-40 4	10.2	10.1	A	1	..	41391b	91	2636	20.7	+37 44	4.47	4.75	Fo	..	R	56,92
42	10407	20.3	-42 50	10.1	9.3	Ao	3	..	37602b	92	2637	20.7	+37 41	6.67	7.67	Ko	..	..	..
43	9631	20.3	-49 26	7.54	8.1	Ko	6	..	37909b	93	3039	20.7	+6 19	9.1	9.1	Ao	3	..	16850b
44	6012	20.3	-59 54	9.0	9.3	Ao	4	0,3	23021b	94	3011	20.7	+4 42	10.1	10.7	Go	1	..	16850b
45	3069	20.3	-65 32	8.1	9.2	K2	7	..	21824b	95	2960	20.7	+2 46	10.5	10.6	A5	2	..	16850b
46	1586	20.3	-73 44	9.7	9.7	B9	4	..	14146b	96	3944	20.7	-11 21	8.3	8.6	Fo	7	..	40584b
47	908	20.4	+66 25	9.4	10.2	G5	2	..	38737i	97	4330	20.7	-17 39	8.9	9.7	G5	2	..	40295b
48	4102	20.4	-10 26	9.9	10.3	F5	2	..	45507b	98	10250	20.7	-37 7	10.2	11.0	G5	2	..	21508b
49	11957	20.4	-31 17	10.2	9.9	Go	2	..	39299b	99	9633	20.7	-40 55	8.2	9.3	Ko	3	..	19404b
50	10286	20.4	-35 25	7.60	7.7	Ao	5	2,3	40701b	100	9929	20.7	-45 25	9.9	9.8	F8	2	..	37602b

## THE HENRY DRAPER CATALOGUE.

137400

15<sup>h</sup> 20<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10081	20.7	-46 42	10.1	9.8	A3	1	..	39069b	51	4163	21.0	-13 39	8.8	9.8	Ko	3	..	40584b
2	9637	20.7	-50 0	9.5	9.5	F8	3	..	37909b	52	10925	21.0	-25 52	10.6	11.8	K5	1	..	40714b
3	5947	20.7	-58 9	8.9	9.2	A5	5	..	23021b	53	10335	21.0	-38 30	8.9	10.1	Ko	3	..	21508b
4	6018	20.7	-59 12	10.1	10.1	Ao	2	..	23021b	54	9911	21.0	-41 9	8.9	9.9	K2	2	..	19404b
5	5814	20.7	-60 27	9.2	9.0	B	3	..	19750b	55	9643	21.0	-49 27	9.9	9.8	Ko	1	..	37909b
6	1012	20.7	-78 38	8.8	9.4	Go	2	..	40252b	56	9129	21.0	-52 1	9.1	8.6	B9	5	..	41517b
7	2174	20.8	+49 52	8.82	9.32	F8	4	..	38736i	57	5951	21.0	-58 50	8.9	8.9	B8	5	..	23021b
8	4161	20.8	-13 59	10.3	10.3	Ao	1	..	40584b	58	6021	21.0	-60 4	9.62	10.0	Go	1	..	23021b
9	4104	20.8	-20 9	8.78	9.7	K2	2	..	21931b	59	2453	21.0	-68 35	10.3	10.3	A	1	..	14146b
10	10372	20.8	-27 37	7.55	8.6	F8	7	..	40714b	60	3005	21.1	+4 58	9.5	10.3	G5	1	..	16850b
11	10373	20.8	-28 4	9.4	11.5	K5	1	..	40714b	61	3014	21.1	+4 38	10.5	11.1	Go	1	..	16850b
12	10801	20.8	-32 17	9.8	9.9	Go	2	..	39299b	62	4144	21.1	-9 38	9.7	10.2	F8	2	..	45507b
13	10159	20.8	-36 10	10.4	10.7	Go	1	..	21508b	63	4106	21.1	-19 40	7.04	7.9	F8	9	..	21931b
14	9871	20.8	-39 46	9.6	10.3	K2	1	..	41391b	64	10254	21.1	-37 46	10.9	10.7	Ao	3	..	21508b
15	9634	20.8	-40 32	10.2	9.6	A2	3	..	19404b	65	9132	21.1	-51 15	6.16	7.5	Ko	4	0,10	43300b
16	10419	20.8	-42 42	9.5	9.2	A3	4	..	37602b	66	6570	21.1	-56 0	9.1	10.1	Fo	5	..	23021b
17	10417	20.8	-42 44	8.9	9.3	Ko	3	..	37602b	67	4515	21.1	-63 5	9.4	9.5	A3	1	..	19750b
18	9430	20.8	-50 23	9.7	9.2	A2	2	..	39069b	68	2456	21.1	-68 30	9.7	9.7	Ao	3	..	14146b
19	6521	20.8	-54 38	8.3	8.6	Ao	6	..	40421b	69	1049	21.1	-76 26	8.2	9.0	G5	4	..	40252b
20	7061	20.8	-57 26	8.7	9.8	Ao	5	..	23021b	70	1500	21.2	+61 20	8.34	8.76	F5	3	..	38764i
21	4967	20.8	-61 15	8.6	8.6	A2	7	..	19750b	71	2858	21.2	+15 47	5.46	6.81	Ma	..	0,6R	1871c
22	679	20.9	+72 11	3.14	3.20	A2	..	R	2572c	72	3037	21.2	+8 53	8.7	9.5	G5	2	..	37689i
23	2383	20.9	+49 6	8.7	9.5	G5	2	..	38741i	73	3006	21.2	+5 29	8.9	9.9	Ko	2	2,1	16850b
24	2656	20.9	+30 24	9.2	10.2	Ko	1	..	38734i	74	4105	21.2	-16 6	9.4	10.4	Ko	1	..	40622b
25	2912	20.9	+25 9	7.96	8.30	F2	4	3,4	38422i	75	11348	21.2	-28 23	9.2	10.2	G5	2	..	40714b
26	3041	20.9	+6 18	8.7	8.7	Ao	6	..	37729i	76	9642	21.2	-40 18	6.78	8.1	Ma	5	..	19404b
27	3355	20.9	+0 38	9.1	9.7	Go	3	..	37729i	77	10427	21.2	-42 48	10.3	10.4	A2	2	..	37602b
28	3992	20.9	-2 38	8.3	9.3	Ko	3	..	41558b	78	9922	21.2	-43 6	10.6	10.4	Ao	1	..	37602b
29	4162	20.9	-14 8	9.4	10.4	Ko	2	..	40584b	79	10135	21.2	-44 48	11.6	10.1	A	1	..	37602b
30	4086	20.9	-16 45	9.7	10.1	F5	3	..	40295b	80	10131	21.2	-45 4	11.0	10.1	F8	1	..	37602b
31	4109	20.9	-22 9	8.7	9.1	Ko	4	..	40576b	81	9439	21.2	-50 47	9.3	8.7	B9	4	..	41517b
32	10161	20.9	-36 25	5.52	5.7	B5	..	0,8-	28,210	82	9133	21.2	-51 41	9.2	9.8	K2	2	..	41517b
33	10422	20.9	-42 27	9.5	10.3	A5	3	..	37602b	83	6026	21.2	-59 39	9.0	10.0	Ko	1	..	23021b
34	9641	20.9	-49 46	8.33	8.6	B9	6	..	37909b	84	5826	21.2	-60 14	8.7	9.8	K2	1	..	23021b
35	9128	20.9	-51 32	11.0	9.8	Ao	1	..	41517b	85	3600	21.2	-63 33	9.0	9.8	G5	1	..	19750b
36	8366	20.9	-53 4	8.7	8.6	B8	6	..	40421b	86	2782	21.2	-66 24	10.3	10.3	A	2	..	21824b
37	6569	20.9	-55 50	8.2	8.3	A3	5	..	40421b	87	1805	21.2	-73 0	9.7	9.7	Ao	3	..	14146b
38	6765	20.9	-56 42	8.8	9.5	B9	6	..	23021b	88	1050	21.2	-76 8	8.9	9.7	G5	2	..	40252b
39	6020	20.9	-59 45	9.1	9.2	B8	3	..	23021b	89	470	21.3	+80 47	9.0	9.6	Go	3	..	37809i
40	3597	20.9	-63 35	9.8	9.8	Ao	1	..	19750b	90	1052	21.3	+65 22	8.8	9.4	Go	2	..	38737i
41	..	20.9	-66 40	..	..	K2	1	..	21824b	91	1194	21.3	+63 28	7.39	8.39	Ko	5	..	38764i
42	724	21.0	+71 0	9.1	9.6	F8	3	..	38737i	92	3017	21.3	+17 55	9.0	10.0	Ko	2	..	37720i
43	1192	21.0	+63 42	5.78	6.85	K2	9	..	38764i	93	3356	21.3	+0 49	9.79	10.57	G5	2	..	16850i
44	1744	21.0	+54 2	9.4	9.9	F8	3	..	38736i	94	3947	21.3	-11 59	9.4	10.0	Go	3	..	40584b
45	2663	21.0	+29 30	8.8	9.8	Ko	2	..	38422i	95	4165	21.3	-13 29	10.1	11.1	Ko	1	..	40584b
46	3107	21.0	+20 9	9.2	10.2	Ko	1	..	37720i	96	4106	21.3	-16 10	10.1	10.9	G5	1	..	40622b
47	2860	21.0	+16 53	8.9	9.9	Ko	1	..	37720i	97	4237	21.3	-20 24	8.5	8.9	Go	5	..	21931b
48	3027	21.0	+3 45	10.5	11.1	Go	1	..	16850i	98	4111	21.3	-21 32	9.2	10.1	Ko	1	..	21931b
49	2967	21.0	-0 43	9.1	9.7	Go	2	..	41558b	99	10296	21.3	-35 53	9.3	9.8	F5	4	..	21508b
50	4022	21.0	-8 0	9.9	10.7	G5	1	..	45507b	100	10257	21.3	-37 59	9.6	10.1	Fo	4	..	21508b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

137500

15<sup>h</sup> 21<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10137	m. 21.3	° -44 45	11.6	10.1	Fo	2	..	37602b	51	2464	m. 21.5	° -68 52	9.1	9.1	B8	5	..	14146b
2	6519	21.3	-53 5	8.6	9.2	F8	5	..	40421b	52	2377	21.5	-69 29	8.2	8.6	F5	6	..	14146b
3	6516	21.3	-53 42	9.6	10.4	G5	2	..	40421b	53	1807	21.5	-72 10	9.0	9.8	G5	2	..	14146b
4	4523	21.3	-62 14	9.3	9.3	Ao	3	..	19750b	54	795	21.6	+69 5	9.0	10.0	Ko	1	..	38737i
5	4517	21.3	-62 55	8.3	9.5	K5	2	..	19750b	55	1651	21.6	+59 2	8.8	8.9	A3	3	..	38764i
6	2783	21.3	-66 46	10.9	10.9	Ao	2	..	21824b	56	2770	21.6	+21 48	8.7	9.5	G5	2	..	37720i
7	2890	21.3	-67 56	9.1	9.2	A2	6	..	14146b	57	3019	21.6	+18 31	7.83	8.33	F8	6	..	37720i
8	2458	21.3	-68 52	8.8	10.0	K5	1	..	14146b	58	4024	21.6	-7 49	9.7	10.2	F8	2	..	41222b
9	2069	21.3	-70 43	7.03	6.7	B8	7	..	35947b	59	3974	21.6	-8 15	9.7	10.3	Go	2	..	45507b
10	2966	21.4	+19 50	6.29	6.85	Go	8	..	37720i	60	11355	21.6	-28 26	9.4	10.7	Ko	1	..	40714b
11	3028	21.4	+3 17	10.5	10.9	F5	2	..	16850b	61	10811	21.6	-32 11	10.4	9.9	Go	2	..	39299b
12	4076	21.4	-5 19	8.35	8.77	F5	5	..	41549b	62	10141	21.6	-44 16	11.0	10.4	Go	1	..	37602b
13	4204	21.4	-6 48	9.4	10.0	Go	2	..	41222b	63	10009	21.6	-47 37	10.1	9.8	A2	2	..	39069b
14	11699	21.4	-29 10	9.4	9.2	Ao	4	..	40714b	64	10007	21.6	-47 54	10.3	9.8	A2	3	..	39069b
15	9882	21.4	-39 11	9.2	9.3	F8	5	..	21508b	65	9451	21.6	-50 48	9.7	8.9	Ao	3	..	41517b
16	9918	21.4	-41 17	10.0	9.2	Ko	1	..	37602b	66	6530	21.6	-54 25	9.0	10.1	K5	1	..	40421b
17	10433	21.4	-42 30	9.5	10.6	Go	2	..	37602b	67	7067	21.6	-57 14	10.6	10.7	A3	1	..	23021b
18	10140	21.4	-44 47	8.02	7.8	Bo	9	..	37602b	68	3073	21.6	-65 46	10.0	10.1	A2	3	..	21824b
19	9975	21.4	-48 54	9.9	9.8	Fo	3	0,2	37909b	69	2862	21.7	+15 3	7.9	7.8	B5	6	..	37689i
20	6517	21.4	-53 34	8.0	8.1	F8	7	..	40421b	70	2853	21.7	+10 23	7.06	8.41	Ma	4	..	37689i
21	6573	21.4	-55 10	9.92	9.5	Ao	4	..	40421b	71	4206	21.7	-6 43	9.7	10.8	K2	1	..	41222b
22	6572	21.4	-55 16	7.92	8.0	B8	8	..	40421b	72	4026	21.7	-7 41	9.7	10.5	G5	1	..	45507b
23	3071	21.4	-65 9	9.5	9.5	Ao	4	..	21824b	73	10299	21.7	-35 14	9.33	10.1	Go	3	..	21508b
24	2376	21.4	-69 53	9.7	10.2	F8	1	..	14146b	74	10350	21.7	-38 5	8.2	9.3	Ko	5	..	21508b
25	1859	21.4	-72 2	9.7	9.7	Ao	2	..	14146b	75	10351	21.7	-38 26	9.2	9.5	Ko	5	..	21508b
26	1589	21.4	-73 27	9.5	10.5	Ko	1	..	14146b	76	10441	21.7	-42 36	10.1	11.0	Ko	1	..	37602b
27	510	21.5	+78 45	7.82	8.89	K2	6	..	37809i	77	10440	21.7	-42 59	9.7	9.9	F8	3	..	37602b
28	1411	21.5	+61 57	8.07	9.07	Ko	3	..	38764i	78	10092	21.7	-46 41	10.1	9.8	Ao	2	2,2	37909b
29	2484	21.5	+26 58	8.3	8.7	F5	2	..	38734i	79	10091	21.7	-46 47	9.2	9.5	Ko	2	0,2	37909b
30	2967	21.5	+19 10	9.0	9.6	Go	1	..	37720i	80	10010	21.7	-47 19	9.9	9.2	Ao	4	0,3	37909b
31	2943	21.5	+13 17	8.0	8.8	G5	3	..	37689i	81	9455	21.7	-50 40	9.7	9.2	Ao	2	..	39069b
32	3031	21.5	+8 43	9.1	9.7	G	1	..	9475b	82	6768	21.7	-56 54	7.8	8.1	A3	7	..	23021b
33	4078	21.5	-5 34	9.1	9.7	Go	2	..	41549b	83	7066	21.7	-58 0	6.82	7.5	A3	10	..	23021b
34	3972	21.5	-8 49	9.4	10.2	G5	1	..	41222b	84	6037	21.7	-59 13	9.8	9.8	Ao	3	..	23021b
35	3948	21.5	-11 38	9.4	9.8	F5	4	..	40584b	85	4978	21.7	-61 27	8.5	9.3	K2	3	..	19750b
36	4205	21.5	-14 47	10.3	11.1	G5	1	..	40584b	86	4530	21.7	-62 33	9.0	9.0	B9	4	..	19750b
37	4107	21.5	-15 26	8.6	8.7	A3	7	..	40295b	87	1653	21.8	+59 12	9.1	10.1	K	1	..	38764i
38	10341	21.5	-38 18	8.56	9.3	Ko	6	..	21508b	88	1745	21.8	+54 34	6.75	7.75	Ko	8	..	38736i
39	9977	21.5	-48 17	9.2	9.8	K2	2	..	39069b	89	2000	21.8	+51 33	8.4	8.9	F8	3	..	38736i
40	9976	21.5	-48 37	8.5	8.9	F2	6	0,4	37909b	90	2294	21.8	+48 24	9.1	10.1	Ko	2	..	38741i
41	9449	21.5	-50 33	10.1	9.2	Ao	2	..	39069b	91	3007	21.8	+5 35	8.0	9.0	Ko	5	0,5	37729i
42	8382	21.5	-52 44	9.0	8.3	Ao	7	..	40421b	92	2962	21.8	+2 14	9.1	10.3	K5	2	..	16850b
43	6033	21.5	-59 21	9.5	9.5	B9	2	..	23021b	93	3784	21.8	-3 13	8.7	9.3	Go	4	..	41558b
44	6034	21.5	-59 28	9.8	9.8	Ao	1	..	23021b	94	10814	21.8	-32 8	10.6	10.1	A2	1	..	39299b
45	3601	21.5	-63 40	8.8	9.8	Ko	1	..	19750b	95	10526	21.8	-33 11	7.49	7.6	B5	6	..	40701b
46	3196	21.5	-64 12	9.3	9.8	F8	2	..	19750b	96	10382	21.8	-34 29	9.8	10.1	Go	1	..	39299b
47	3072	21.5	-66 2	8.9	8.9	B9	6	..	21824b	97	10169	21.8	-37 0	7.18	8.6	Mb	2	..	43316b
48	2894	21.5	-67 13	9.8	9.8	A	3	..	21824b	98	9650	21.8	-40 23	8.82	8.9	G5	4	5,3	41391b
49	2893	21.5	-67 17	8.7	8.7	Ao	6	..	21824b	99	10444	21.8	-42 40	9.7	11.0	K2	1	..	37602b
50	2895	21.5	-67 25	8.6	9.6	Ko	4	..	21824b	100	10443	21.8	-42 51	10.1	11.2	Ko	1	..	37602b

THE HENRY DRAPER CATALOGUE.

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15<sup>h</sup> 21<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	8393	21.8	-53 0	8.9	8.9	F2	6	..	40421b	51	4207	22.1	-15 4	8.71	9.13	F5	3	..	40295b
2	6522	21.8	-53 41	10.3	10.3	Ao	2	..	40421b	52	4087	22.1	-16 49	9.4	10.2	G5	3	..	40295b
3	5962	21.8	-58 14	..	10.4	Oe	1	R	23021b	53	10935	22.1	-25 54	9.9	9.8	Go	2	..	40714b
4	5963	21.8	-58 43	9.4	10.4	Ko	1	..	23021b	54	10888	22.1	-26 47	9.2	9.6	G5	3	..	40714b
5	2896	21.8	-67 11	9.1	10.5	Ma	2	..	21824b	55	10449	22.1	-42 50	10.3	10.7	Fo	1	..	37602b
6	2071	21.8	-70 10	10.1	10.2	A2	2	..	14146b	56	9936	22.1	-43 13	11.6	10.4	A3	1	..	37602b
7	1014	21.8	-78 44	7.1	7.1	Ao	7	..	13442b	57	10017	22.1	-47 31	9.1	9.2	Ko	2	5,2	39069b
8	1875	21.9	+52 1	8.4	9.5	K2	2	..	38736i	58	9652	22.1	-50 2	10.3	9.8	G5	2	..	39069b
9	2963	21.9	+ 2 1	9.8	10.4	Go	2	..	16850b	59	6524	22.1	-53 14	9.9	9.9	Ao	4	..	40421b
10	4079	21.9	- 5 28	8.1	9.3	K5	3	..	41549b	60	5969	22.1	-58 10	10.0	10.0	B9	1	..	23021b
11	4028	21.9	- 7 48	9.7	10.5	G5	1	..	45507b	61	6043	22.1	-59 24	9.0	9.8	G5	2	..	23021b
12	4067	21.9	-18 15	10.1	11.1	Ko	1	..	40295b	62	4537	22.1	-62 29	8.5	9.5	Ko	1	..	19750b
13	12084	21.9	-24 49	7.40	8.4	Ro	6	0,6	40576b	63	1192	22.1	-75 37	8.7	9.7	Ko	2	..	40252b
14	10527	21.9	-33 49	9.6	9.8	Go	3	..	39299b	64	2066	22.2	+46 17	7.19	7.97	G5	5	..	38496i
15	10384	21.9	-34 21	9.3	10.1	Go	2	..	39299b	65	3029	22.2	+ 3 15	10.5	10.6	A2	2	..	16850b
16	10383	21.9	-34 34	9.2	9.8	Ao	3	..	39299b	66	3979	22.2	- 8 36	7.73	8.73	Ko	6	..	41222b
17	10268	21.9	-37 17	7.43	7.7	Ko	2	..	43316b	67	4111	22.2	-19 33	9.9	10.9	K2	1	..	40295b
18	10354	21.9	-38 42	8.6	9.3	Ko	7	..	21508b	68	10889	22.2	-26 58	8.1	9.2	K2	4	..	40714b
19	9891	21.9	-39 26	8.00	8.0	F2	7	..	41391b	69	10382	22.2	-27 10	8.9	10.2	K2	2	..	40714b
20	10143	21.9	-44 32	8.3	7.4	B9	9	..	37602b	70	10381	22.2	-27 16	8.9	9.2	F5	4	..	40714b
21	9942	21.9	-45 12	9.76	10.1	K5	2	..	37602b	71	12255	22.2	-30 13	10.08	9.9	Go	2	..	40714b
22	9651	21.9	-49 23	10.3	9.0	A2	3	0,3	37909b	72	10819	22.2	-32 22	9.6	10.1	G5	1	..	39299b
23	6579	21.9	-55 39	9.2	9.6	B8	5	..	23021b	73	9898	22.2	-39 28	9.3	9.5	Go	2	..	41391b
24	6771	21.9	-57 3	10.4	10.4	A	2	..	23021b	74	9938	22.2	-43 21	11.0	10.5	G5	1	..	37602b
25	5965	21.9	-58 24	8.6	9.6	Ko	4	..	23021b	75	10145	22.2	-44 31	11.6	10.1	F8	1	..	37602b
26	3074	21.9	-65 15	7.95	8.3	G5	6	..	21785b	76	9653	22.2	-49 36	7.5	8.6	G5	6	..	37909b
27	2379	21.9	-69 8	8.9	10.0	K2	2	..	14146b	77	..	22.2	-50 14	Nov.	Nov.	Pec.	..	R	76;37
28	1590	21.9	-74 0	8.9	9.9	Ko	3	..	14146b	78	9468	22.2	-50 23	7.88	8.3	A3	6	2,8	39069b
29	2224	22.0	+47 25	6.90	7.68	G5	6	..	38496i	79	9467	22.2	-51 2	7.4	8.0	K2	3	..	41517b
30	2581	22.0	+32 49	7.04	8.04	Ko	7	..	37800i	80	9149	22.2	-51 40	9.1	9.8	K2	1	..	41517b
31	4107	22.0	-10 37	7.71	8.27	Go	7	..	41222b	81	6526	22.2	-53 58	8.5	9.5	Ao	4	..	40421b
32	4106	22.0	-11 5	9.7	10.0	Fo	2	..	40584b	82	6581	22.2	-56 1	8.6	9.2	Ao	7	..	23021b
33	4168	22.0	-13 17	9.4	9.9	F8	3	..	40584b	83	3076	22.2	-65 35	6.7	6.7	B9	4	..	21824b
34	4112	22.0	-16 9	8.3	8.4	A3	6	..	40295b	84	2470	22.2	-68 59	9.5	10.3	G5	1	..	14146b
35	4108	22.0	-19 18	9.4	9.1	Ao	3	..	21931b	85	1193	22.2	-75 53	8.4	8.7	Fo	5	..	40252b
36	9932	22.0	-43 55	9.9	10.4	Ko	1	..	37602b	86	672	22.3	+73 50	7.36	7.78	F5	7	..	37809i
37	9461	22.0	-50 6	9.33	9.8	K5	1	..	39069b	87	1501	22.3	+60 53	7.45	8.23	G5	6	..	38764i
38	9463	22.0	-50 53	9.0	8.6	B9	5	..	41517b	88	2432	22.3	+28 28	7.64	8.71	K2	4	..	38422i
39	9462	22.0	-50 59	10.6	9.8	A	1	..	41517b	89	3020	22.3	+18 4	9.1	9.9	G5	1	..	37720i
40	7068	22.0	-57 7	9.9	9.9	B9	4	..	23021b	90	3031	22.3	+ 3 25	9.3	9.9	Go	4	..	37729i
41	5839	22.0	-60 8	8.52	8.4	B9	6	0,6	19750b	91	3080	22.3	+ 1 11	8.7	9.5	G5	4	..	37729i
42	1810	22.0	-72 15	8.8	8.8	B8	5	..	14146b	92	3950	22.3	-11 28	10.1	11.2	K2	1	..	40584b
43	1195	22.1	+63 17	8.6	9.0	F5	4	..	38764i	93	10890	22.3	-26 46	10.9	10.2	A2	3	..	40714b
44	2065	22.1	+45 55	8.8	8.8	Ao	3	..	38741i	94	10179	22.3	-36 8	10.4	11.0	Ko	1	..	21508b
45	3057	22.1	- 1 30	8.3	9.3	Ko	4	..	41549b	95	9937	22.3	-41 35	9.2	10.4	Ko	1	..	19404b
46	3995	22.1	- 2 41	8.2	9.3	K2	3	..	41558b	96	9469	22.3	-50 55	8.9	8.3	B9	4	..	41517b
47	3977	22.1	- 9 9	9.4	10.2	G5	2	..	41222b	97	9150	22.3	-51 6	8.3	8.0	B9	5	..	41517b
48	3949	22.1	-11 57	9.2	9.5	Fo	3	..	40584b	98	9153	22.3	-51 38	9.2	9.5	Ko	3	..	41517b
49	4259	22.1	-12 31	10.1	10.7	Go	1	..	40584b	99	4544	22.3	-63 0	9.1	9.2	A3	2	..	19750b
50	4208	22.1	-14 37	7.37	8.44	K2	5	..	40295b	100	3077	22.3	-65 11	7.85	7.4	B9	8	..	21785b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

137700

15<sup>h</sup> 22<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
		m.	° ' "									m.	° ' "						
1	1593	22.3	-73 12	8.0	9.0	Ko	6	..	14146b	51	9903	22.6	-39 45	9.6	9.9	Go	3	..	41391b
2	1194	22.3	-75 9	8.81	9.4	Ko	3	..	14146b	52	10150	22.6	-44 11	9.1	8.6	A2	5	..	37602b
3	1568	22.4	+58 4	8.6	9.4	G5	3	..	38764i	53	9157	22.6	-51 57	7.04	7.0	B9	5	..	43300b
4	2645	22.4	+34 41	5.87	6.87	Ko	9	..	37800i	54	8408	22.6	-52 30	8.2	8.7	Ko	4	..	40421b
5	2489	22.4	+27 45	8.1	8.6	F8	4	..	38422i	55	6777	22.6	-56 52	10.2	10.3	A5	4	..	23021b
6	3033	22.4	+ 8 49	8.7	9.3	Go	3	..	9475b	56	7069	22.6	-57 47	9.9	10.4	F8	2	..	23021b
7	12256	22.4	-30 45	9.5	9.5	A2	3	..	40714b	57	4995	22.6	-61 20	8.6	8.9	G5	5	..	19750b
8	9941	22.4	-41 10	9.2	10.4	Ao	3	R	19404b	58	2899	22.6	-67 15	10.6	10.7	A3	2	..	21824b
9	10100	22.4	-46 23	5.05	7.6	Ko	..	0.8	28,210	59	1654	22.7	+59 19	3.47	4.47	Ko	..	R	1855c
10	9992	22.4	-48 37	9.7	9.2	B9	4	1.4	37909b	60	2491	22.7	+27 37	8.1	9.3	K5	1	..	38422i
11	9474	22.4	-50 54	9.3	9.0	B9	4	..	41517b	61	3048	22.7	+ 6 27	7.9	8.4	F8	6	..	37729i
12	5976	22.4	-58 45	8.8	8.6	B8	7	..	23021b	62	3009	22.7	+ 5 44	9.5	10.3	G5	5	0.3	16850b
13	3078	22.4	-65 58	10.1	10.1	Ao	3	..	21824b	63	3981	22.7	- 9 0	6.80	7.80	Ko	8	..	41222b
14	2474	22.4	-68 49	7.9	7.9	Ao	7	..	14146b	64	4120	22.7	-21 28	9.2	9.1	F8	3	..	21931b
15	2074	22.4	-70 23	9.0	9.8	G5	2	..	14146b	65	9659	22.7	-40 16	8.82	9.6	G5	4	0.3	41391b
16	1594	22.4	-73 37	9.6	10.4	G5	1	..	14146b	66	9658	22.7	-40 29	8.9	8.7	A2	6	..	19404b
17	1804	22.5	+55 57	8.0	9.1	K2	5	..	38736i	67	9944	22.7	-43 13	8.0	7.7	F8	7	..	37602b
18	2003	22.5	+50 56	7.70	8.88	K5	4	..	38736i	68	9945	22.7	-43 47	9.1	8.4	B9	6	..	37602b
19	2464	22.5	+44 39	7.37	8.55	K5	3	..	38496i	69	9483	22.7	-50 7	9.9	9.8	A2	1	..	39069b
20	3109	22.5	+20 24	9.1	9.6	F8	2	..	37720i	70	8410	22.7	-52 39	9.2	9.8	Go	1	..	40421b
21	2864	22.5	+14 55	8.64	9.14	F8	3	..	37689i	71	6778	22.7	-56 57	10.4	10.4	Ao	3	..	23021b
22	2946	22.5	+13 44	7.67	7.95	Fo	5	..	37689i	72	7070	22.7	-57 45	8.1	8.1	A2	7	..	23021b
23	2854	22.5	+10 3	7.87	8.43	Go	5	..	37689i	73	5981	22.7	-58 15	9.1	10.1	Ko	2	..	23021b
24	3357	22.5	+ 0 24	9.8	10.6	G5	1	..	16850b	74	3080	22.7	-65 55	10.5	10.5	Ao	2	..	21824b
25	4239	22.5	-20 51	7.7	7.7	G5	8	..	21931b	75	2856	22.8	+10 14	9.1	9.7	Go	2	..	37689i
26	10891	22.5	-26 30	9.1	10.7	K5	1	..	40714b	76	3010	22.8	+ 5 48	9.8	10.8	Ko	1	..	16850b
27	12259	22.5	-30 57	9.1	9.6	Ko	3	..	40714b	77	4030	22.8	- 7 41	8.1	8.1	Ao	6	..	41549b
28	11981	22.5	-31 7	7.21	7.7	A2	10	..	40714b	78	3983	22.8	- 9 0	8.1	9.1	Ko	4	..	41222b
29	9945	22.5	-41 52	10.2	10.5	F2	1	..	37602b	79	4108	22.8	-11 6	7.67	7.67	Ao	8	..	40584b
30	10102	22.5	-46 33	7.9	9.0	K5	3	..	37909b	80	10894	22.8	-26 9	9.7	9.6	F8	4	..	40714b
31	9994	22.5	-48 23	10.1	9.8	Ko	2	..	39069b	81	10386	22.8	-27 16	9.9	10.1	Go	3	..	40714b
32	9477	22.5	-50 36	10.3	9.5	B9	1	..	39069b	82	10827	22.8	-32 48	8.7	9.8	Go	3	..	39299b
33	6046	22.5	-59 18	9.2	9.2	B8	6	..	23021b	83	10540	22.8	-33 34	8.7	10.4	K2	1	..	39299b
34	6045	22.5	-59 24	9.2	9.2	B9	4	..	23021b	84	10193	22.8	-36 40	9.8	10.4	G5	2	..	21508b
35	3608	22.5	-63 26	9.5	9.5	Ao	2	..	19750b	85	10371	22.8	-38 17	6.61	7.2	A5	..	5.5	28,210
36	3607	22.5	-63 45	8.9	10.1	K5	2	..	19750b	86	9907	22.8	-39 49	8.7	9.0	Fo	5	..	41391b
37	2381	22.5	-69 36	9.4	9.4	B9	3	..	14146b	87	10001	22.8	-48 59	8.1	9.5	Ma	2	0.1	37909b
38	2075	22.5	-70 20	8.8	9.8	Ko	2	..	14146b	88	9491	22.8	-50 32	10.1	9.5	Ao	1	..	39069b
39	2667	22.6	+29 0	8.5	9.5	Ko	1	..	38734i	89	9489	22.8	-50 45	9.1	9.0	K2	2	..	41517b
40	3022	22.6	+18 25	9.1	9.7	Go	2	..	37720i	90	2479	22.8	-68 53	8.8	8.9	A2	5	..	14146b
41	3081	22.6	+ 1 45	10.5	11.1	Go	1	..	16850b	91	1596	22.8	-73 46	8.4	9.4	Ko	4	..	14146b
42	2971	22.6	- 0 17	8.43	8.49	A2	4	..	37729i	92	3024	22.9	+17 58	7.7	8.2	F8	4	..	37720i
43	4170	22.6	-13 11	9.4	10.2	G5	2	..	40584b	93	2810	22.9	+10 59	9.3	9.9	Go	2	..	37689i
44	4089	22.6	-16 22	5.92	6.92	Ko	..	0.8	56,136	94	3358	22.9	+ 0 14	9.1	10.1	Ko	3	..	16850b
45	4117	22.6	-21 20	9.4	10.5	Ko	1	..	21931b	95	4081	22.9	- 6 6	7.9	8.7	G5	4	..	41549b
46	4116	22.6	-21 52	10.3	10.5	Ko	1	..	21931b	96	4172	22.9	-13 33	9.9	11.1	K5	1	..	40584b
47	11710	22.6	-29 13	7.6	8.6	A3	6	..	40714b	97	4209	22.9	-14 24	9.7	9.8	A2	4	..	40584b
48	10536	22.6	-33 59	8.9	10.1	G5	1	..	39299b	98	11366	22.9	-28 31	7.51	7.1	F8	10	..	40714b
49	10185	22.6	-36 10	9.6	11.0	K5	1	..	21508b	99	9662	22.9	-40 10	7.18	8.4	G5	6	..	19404b
50	10367	22.6	-38 56	8.9	9.4	Go	3	..	41391b	100	6054	22.9	-59 28	9.3	9.3	A	2	..	23021b



## THE HENRY DRAPER CATALOGUE.

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15<sup>h</sup> 22<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3610	22.9	-63 30	8.8	9.8	Ko	1	..	1975ob	51	2786	23.2	-67 3	9.5	9.6	A3	5	..	21824b
2	2784	22.9	-66 47	9.4	9.5	A5	6	..	21824b	52	1020	23.2	-78 32	7.7	8.0	F2	4	..	13442b
3	1423	22.9	-74 37	9.5	10.5	Ko	1	..	14146b	53	2916	23.3	+25 26	6.26	7.44	K5	6	..	38734i
4	851	22.9	-79 16	8.1	8.6	F8	4	..	40252b	54	2838	23.3	+12 12	6.96	7.24	Fo	8	..	37689i
5	2465	23.0	+44 22	7.40	8.18	G5	4	..	38496i	55	3011	23.3	+5 4	9.8	10.3	F8	2	..	16850b
6	2643	23.0	+37 38	8.5	9.5	Ko	3	..	37800i	56	3035	23.3	+3 49	10.5	11.3	G5	1	..	16850b
7	3111	23.0	+20 49	8.9	9.9	Ko	1	..	37720i	57	3059	23.3	-1 41	8.7	9.2	F8	3	..	41549b
8	3026	23.0	+18 22	9.3	10.1	G5	1	..	37720i	58	12321	23.3	-23 21	10.2	9.4	G5	2	..	21931b
9	3985	23.0	-8 49	8.5	9.6	K2	3	..	41222b	59	12106	23.3	-24 6	7.6	8.6	Ko	5	..	21931b
10	3952	23.0	-11 24	8.6	9.7	K2	3	..	40584b	60	12105	23.3	-24 26	9.5	9.2	K2	2	..	40714b
11	4212	23.0	-14 56	9.7	10.5	G5	2	..	40295b	61	10392	23.3	-27 21	8.7	9.6	G5	4	..	40714b
12	4118	23.0	-15 21	6.80	7.58	G5	9	..	40295b	62	10469	23.3	-42 48	9.7	10.5	Ko	2	..	37602b
13	4112	23.0	-19 33	10.1	10.1	Fo	2	..	40295b	63	9500	23.3	-50 59	9.5	9.0	Ao	3	..	41517b
14	10829	23.0	-32 28	9.6	9.9	Go	2	..	39299b	64	8425	23.3	-52 25	8.5	8.7	Go	4	..	40421b
15	10155	23.0	-44 53	9.5	9.2	Ao	3	..	39069b	65	8429	23.3	-52 25	8.5	8.6	B9	7	..	40421b
16	9954	23.0	-45 50	10.3	9.8	A2	2	..	39069b	66	8427	23.3	-53 1	6.9	7.2	Ko	7	..	40421b
17	10004	23.0	-48 7	9.5	9.5	Ao	3	..	39069b	67	5991	23.3	-58 9	9.3	9.8	F8	3	..	23021b
18	9663	23.0	-49 15	8.6	10.1	K2	1	3,I	37909b	68	..	23.3	-67 17	..	..	K2	2	..	21824b
19	8420	23.0	-52 38	7.5	8.0	Fo	8	..	40421b	69	1869	23.3	-71 30	9.4	9.7	F2	3	..	14146b
20	8419	23.0	-53 1	8.6	8.6	Ao	5	..	40421b	70	2067	23.4	+45 56	7.17	7.67	F8	5	..	38496i
21	7071	23.0	-57 29	10.3	10.3	Ao	3	..	23021b	71	3051	23.4	+5 53	8.7	9.7	Ko	3	..	16850b
22	2901	23.0	-67 47	8.9	9.7	G5	6	..	14146b	72	3036	23.4	+3 33	10.5	11.1	Go	1	..	16850b
23	2384	23.0	-69 35	9.5	9.5	Ao	3	..	14146b	73	4262	23.4	-12 23	8.8	8.8	B9	5	..	40584b
24	137	23.0	-88 33	10.2	10.2	Ao	2	..	22980b	74	4213	23.4	-14 46	9.7	10.3	Go	4	..	40584b
25	673	23.1	+73 16	8.6	9.4	G5	2	..	38732i	75	3965	23.4	-22 22	9.4	9.1	F5	3	..	21931b
26	887	23.1	+66 54	9.0	9.8	G5	3	..	38737i	76	11369	23.4	-28 30	8.7	9.0	G5	4	..	40714b
27	1612	23.1	+60 20	8.2	8.5	Fo	5	..	38764i	77	10284	23.4	-37 27	9.3	9.5	A3	3	..	41391b
28	2006	23.1	+51 42	9.2	10.0	G5	1	..	38736i	78	10472	23.4	-42 43	9.5	10.4	Go	2	..	37602b
29	2947	23.1	+13 26	9.1	10.1	Ko	1	..	37745i	79	10112	23.4	-46 20	10.1	9.8	A5	2	..	39069b
30	3082	23.1	+1 19	10.5	11.1	Go	2	..	16850b	80	6544	23.4	-54 41	10.7	10.7	Ao	2	..	23021b
31	4083	23.1	-5 40	7.90	8.97	K2	4	..	41549b	81	2385	23.4	-70 1	9.2	10.2	Ko	1	..	14146b
32	4074	23.1	-18 23	8.3	9.3	Ko	5	..	21931b	82	2858	23.5	+10 49	9.3	9.9	G	2	..	37689i
33	4073	23.1	-18 48	9.7	10.7	Ko	1	..	40295b	83	2964	23.5	+2 50	8.6	8.6	Ao	6	..	37729i
34	10398	23.1	-35 3	8.53	9.2	F5	2	..	40701b	84	3084	23.5	+0 56	7.00	7.08	A3	8	..	37729i
35	9666	23.1	-49 13	9.2	9.5	B8	4	0,3	37909b	85	4121	23.5	-15 33	10.1	10.7	Go	2	..	40584b
36	9495	23.1	-50 46	9.2	8.4	Ao	4	..	41517b	86	4340	23.5	-17 23	9.7	10.2	F8	3	..	40295b
37	9494	23.1	-50 49	9.2	8.9	A	2	..	41517b	87	10901	23.5	-26 15	8.2	9.2	K5	5	..	40714b
38	7072	23.1	-57 8	8.0	8.6	B8	7	..	23021b	88	9668	23.5	-40 47	8.7	9.3	Fo	5	..	19404b
39	5985	23.1	-58 55	8.5	8.9	A2	7	..	23021b	89	9962	23.5	-41 15	8.9	8.8	Ao	6	..	19404b
40	5851	23.1	-60 18	8.9	9.2	F2	5	3,2	23021b	90	10041	23.5	-47 17	9.5	9.2	A3	4	2,3	39069b
41	5853	23.1	-60 31	8.5	9.3	Ma	4	0,2	23021b	91	9171	23.5	-51 49	10.3	9.5	B8	3	..	41517b
42	2903	23.1	-67 11	10.9	10.9	B9	2	..	21824b	92	6590	23.5	-56 2	10.4	10.4	Ao	4	..	23021b
43	1198	23.1	-75 17	8.9	9.0	A2	7	R	14146b	93	3612	23.5	-63 19	9.7	9.8	A2	2	..	19750b
44	3034	23.2	+3 12	8.1	8.2	A5	7	..	37729i	94	675	23.6	+73 19	8.6	9.4	G5	1	..	38732i
45	3986	23.2	-8 24	7.9	9.0	K2	5	..	41222b	95	1876	23.6	+52 24	7.03	8.10	K2	5	..	38736i
46	4114	23.2	-19 52	8.8	8.9	Go	4	..	21931b	96	2601	23.6	+41 54	8.0	8.8	G5	1	..	38496i
47	9912	23.2	-39 48	9.3	9.4	Ko	4	..	41391b	97	3038	23.6	+3 26	8.9	9.7	G5	3	..	16850b
48	9664	23.2	-40 43	8.9	9.4	A2	4	..	19404b	98	2965	23.6	+2 12	5.12	5.26	A5	9	2,2-	38432i
49	9167	23.2	-51 11	9.7	9.2	Ao	4	..	41517b	99	4215	23.6	-6 18	9.1	9.2	A5	3	..	41549b
50	2785	23.2	-66 17	9.4	10.5	K2	3	..	21824b	100	4242	23.6	-21 4	9.9	10.6	G5	1	..	21931b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

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15<sup>h</sup> 23<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10389	23.6	-38 14	7.40	7.8	A2	3	..	43316b	51	12326	23.9	-23 45	10.9	9.5	A	2	..	21931b
2	10476	23.6	-42 59	9.9	10.2	Fo	2	..	37602b	52	10217	23.9	-37 3	8.9	9.1	Go	3	..	41391b
3	8434	23.6	-52 18	7.5	8.0	A2	9	..	40421b	53	10292	23.9	-37 58	9.6	8.9	F2	3	..	41391b
4	5993	23.6	-58 13	9.8	9.8	Ao	2	..	23021b	54	9972	23.9	-41 35	9.6	10.2	K	1	..	19404b
5	3083	23.6	-65 33	9.7	9.8	A3	4	..	21824b	55	9965	23.9	-43 28	9.5	9.8	Ko	3	..	37602b
6	1816	23.6	-72 26	8.5	8.5	B9	7	..	14146b	56	9963	23.9	-43 54	10.6	9.8	A2	2	..	37602b
7	1815	23.6	-72 56	9.4	9.4	Ao	4	..	14146b	57	10166	23.9	-45 4	7.72	7.6	Ao	7	..	39069b
8	1598	23.6	-73 48	9.6	9.6	B9	4	..	14146b	58	10047	23.9	-47 34	7.4	7.7	Go	6	5,7	37909b
9	2670	23.7	+29 27	3.72	4.00	Fop	..	R	1850c	59	9681	23.9	-49 9	8.5	8.6	B9	5	..	39069b
10	3112	23.7	+20 24	8.9	9.7	G5	2	..	37720i	60	9682	23.9	-49 43	8.5	9.8	K5	2	..	39069b
11	2968	23.7	+7 15	8.7	8.8	A5	4	E	37689i	61	9509	23.9	-50 10	9.2	9.0	Ao	4	..	39069b
12	3012	23.7	+5 18	10.5	10.6	A3	1	..	16850b	62	9184	23.9	-51 8	10.1	9.5	Ao	2	..	41517b
13	4086	23.7	-5 56	7.9	7.9	Ao	8	..	41549b	63	9180	23.9	-51 40	10.6	9.5	B9	3	..	41517b
14	4174	23.7	-14 6	9.4	9.4	Ao	5	..	40584b	64	6596	23.9	-55 15	10.7	10.7	Ao	2	R	23021b
15	4092	23.7	-17 10	10.3	11.1	G5	2	..	40295b	65	5862	23.9	-60 28	8.9	8.9	Ao	7	0,4	23021b
16	4076	23.7	-19 4	8.9	8.9	B9	6	..	21931b	66	4574	23.9	-62 15	9.5	9.5	B9	2	..	19750b
17	10902	23.7	-26 20	10.9	10.1	Go	3	..	40714b	67	2788	23.9	-66 6	9.3	10.3	Ko	2	..	21824b
18	9673	23.7	-40 47	9.3	9.9	Go	2	..	19404b	68	2393	23.9	-69 41	10.0	10.0	A	2	..	14146b
19	9965	23.7	-41 34	6.54	6.7	Ao	6	0,7	43859b	69	1427	23.9	-74 33	9.0	9.1	A2	4	..	14146b
20	10116	23.7	-46 9	9.2	8.7	A2	4	..	39069b	70	243	23.9	-87 36	9.5	10.3	G5	1	..	22980b
21	10118	23.7	-46 46	10.6	9.8	A3	1	..	39069b	71	566	24.0	+75 45	8.42	9.42	Ko	3	..	37809i
22	9676	23.7	-49 45	9.9	9.8	A2	3	..	39069b	72	1754	24.0	+55 14	8.2	8.3	A5	4	..	38736i
23	9174	23.7	-51 28	10.1	9.8	F5	1	..	41517b	73	3014	24.0	+5 7	10.1	10.9	G5	1	..	16850b
24	6593	23.7	-55 36	8.4	8.7	B9	7	..	23021b	74	4125	24.0	-15 12	10.1	10.6	F8	1	..	40584b
25	7075	23.7	-57 55	10.4	10.4	B8	3	..	23021b	75	4095	24.0	-16 30	8.8	9.2	F5	4	..	40295b
26	3084	23.7	-65 47	9.2	9.5	Fo	4	..	21824b	76	4094	24.0	-16 30	8.8	8.9	A2	4	..	40295b
27	2387	23.7	-69 46	8.6	8.9	F2	6	..	14146b	77	4094	24.0	-16 33	9.7	10.8	K2	1	..	40295b
28	1747	23.8	+54 21	6.18	6.24	A2	10	..	38736i	78	12329	24.0	-23 42	8.1	8.5	A5	6	..	21931b
29	3039	23.8	+3 47	8.6	9.6	Ko	4	..	16850b	79	9927	24.0	-39 33	8.0	9.3	Ko	5	..	41391b
30	4216	23.8	-6 38	8.6	9.7	K2	2	..	41549b	80	10123	24.0	-46 32	10.3	9.5	A2	2	..	39069b
31	4034	23.8	-7 25	8.9	9.9	Ko	2	..	41222b	81	9185	24.0	-51 39	8.4	8.9	K2	2	..	41517b
32	4124	23.8	-15 43	10.1	10.9	G5	1	..	40584b	82	6549	24.0	-54 57	10.4	10.4	Ao	2	..	23021b
33	9924	23.8	-39 28	9.0	10.2	Ko	2	..	41391b	83	2493	24.1	+26 51	8.5	9.3	G5	2	..	38734i
34	10162	23.8	-44 17	10.1	9.8	Ko	2	..	37602b	84	2869	24.1	+24 2	8.2	9.3	K2	4	..	37720i
35	9964	23.8	-45 22	8.5	8.3	B9	5	..	39069b	85	2788	24.1	+16 14	8.9	9.7	G5	2	E	37689i
36	9505	23.8	-50 58	9.3	8.4	Ao	5	..	41517b	86	2863	24.1	+10 43	8.7	9.5	G5	2	..	37689i
37	8437	23.8	-52 33	8.5	8.4	B5	6	..	40421b	87	3040	24.1	+3 23	9.1	10.1	Ko	2	..	16850b
38	6547	23.8	-54 33	9.2	9.9	A2	3	..	40421b	88	3087	24.1	+1 47	9.1	9.9	G5	2	..	37729i
39	6595	23.8	-55 22	10.3	10.3	Ao	3	R	23021b	89	4175	24.1	-13 45	9.9	10.0	A3	2	..	40584b
40	5996	23.8	-58 41	8.5	9.3	Ao	5	..	23021b	90	10298	24.1	-37 21	8.2	9.6	A5	3	..	43316b
41	5997	23.8	-58 54	8.5	9.6	G5	4	..	23021b	91	10400	24.1	-38 8	8.2	9.3	F2	4	..	41391b
42	2787	23.8	-66 30	9.5	10.3	G5	4	..	21824b	92	9977	24.1	-41 19	7.8	8.4	F8	7	..	19404b
43	1426	23.8	-74 59	8.26	8.5	Ao	5	..	40252b	93	9968	24.1	-43 31	7.6	8.0	G5	8	..	37602b
44	797	23.9	+69 43	8.89	9.45	Go	4	..	38737i	94	10169	24.1	-44 7	10.6	9.8	B8	2	..	37602b
45	2840	23.9	+22 49	8.3	8.6	F2	5	..	37720i	95	9688	24.1	-49 25	10.1	9.5	Ao	1	..	39069b
46	3028	23.9	+18 21	7.7	8.7	Ko	3	..	37720i	96	9687	24.1	-49 30	10.6	9.8	G5	1	..	39069b
47	3895	23.9	-4 16	8.7	8.8	A2	4	..	41549b	97	6598	24.1	-55 50	9.6	10.1	F8	4	..	23021b
48	3987	23.9	-8 12	9.7	10.2	F8	2	..	45507b	98	6082	24.1	-59 49	8.8	9.8	Ma	3	..	23021b
49	4093	23.9	-17 5	7.23	7.51	Fop	..	0,8 R	56,136	99	5022	24.1	-61 37	8.9	8.9	B9	5	..	19750b
50	12327	23.9	-23 13	10.6	10.3	F5	1	..	21931b	100	3085	24.1	-66 0	9.2	9.5	Fo	5	..	21824b

## THE HENRY DRAPER CATALOGUE.

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15<sup>h</sup> 24<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	1817	24.1	-72 49	10.0	10.4	F5	2	R	14146b	51	6544	24.4	-54 1	8.3	8.6	A2	7	..	40421b
2	676	24.2	+73 9	8.9	9.5	Go	2	..	38732i	52	6006	24.4	-59 2	9.0	9.8	Ko	3	..	23021b
3	2009	24.2	+50 57	7.71	7.69	B9	7	..	38741i	53	3202	24.4	-65 1	9.38	9.0	B9	4	0,3	21785b
4	2500	24.2	+43 13	7.46	8.24	G5	4	..	38496i	54	3088	24.4	-65 50	8.4	8.7	F2	7	..	21824b
5	2692	24.2	+25 57	8.2	9.2	Ko	1	..	38734i	55	2396	24.4	-69 13	10.2	10.3	A2	1	..	14146b
6	3053	24.2	+6 21	8.7	9.9	K5	2	..	16850b	56	1781	24.5	+53 35	9.0	10.1	K2	2	..	38736i
7	2966	24.2	+2 20	9.5	10.1	Go	1	..	16850b	57	2494	24.5	+27 28	7.53	8.03	F8	6	..	38422i
8	12118	24.2	-24 11	9.7	9.5	Ao	4	..	21931b	58	2871	24.5	+15 38	8.1	8.2	A3	5	..	37689i
9	11999	24.2	-31 57	9.1	8.8	G5	2	..	40701b	59	3016	24.5	+4 59	9.8	10.4	Go	1	..	16850b
10	10219	24.2	-37 1	10.2	9.3	Ao	3	..	41391b	60	4153	24.5	-9 43	9.4	10.0	Go	2	..	41222b
11	9974	24.2	-43 5	10.1	10.1	Ko	2	..	37602b	61	4265	24.5	-12 26	7.9	8.7	G5	6	..	40584b
12	10023	24.2	-48 43	9.2	9.8	K5	1	..	39069b	62	4097	24.5	-16 55	8.7	8.8	A2	5	..	40295b
13	8445	24.2	-52 39	9.5	9.5	Ao	2	0,2	40421b	63	4346	24.5	-17 22	10.1	11.3	K5	1	..	40295b
14	8447	24.2	-52 46	9.1	8.9	A2	3	2,2	40421b	64	4347	24.5	-17 46	10.1	10.4	F2	2	..	40295b
15	6599	24.2	-55 39	8.5	9.2	F5	6	..	23021b	65	12121	24.5	-24 57	8.95	9.6	K2	3	..	40714b
16	6600	24.2	-56 3	9.6	9.9	Fo	5	..	23021b	66	10224	24.5	-37 3	9.8	9.9	G5	1	..	41391b
17	2081	24.2	-70 31	9.7	9.7	A	1	..	14146b	67	9983	24.5	-41 44	9.2	9.3	A5	4	..	19404b
18	2080	24.2	-70 32	9.7	9.7	A	2	..	14146b	68	10490	24.5	-42 48	9.2	9.9	Ko	3	..	37602b
19	658	24.2	-82 19	8.2	9.4	K5	3	..	13442b	69	2790	24.5	-67 2	8.9	9.5	Go	4	..	21824b
20	585	24.3	+77 0	8.2	9.2	Ko	4	..	37809i	70	2486	24.5	-68 25	8.6	9.7	K2	3	..	14146b
21	2773	24.3	+21 30	8.7	9.2	F8	4	..	37720i	71	1207	24.5	-75 27	9.3	9.3	Ao	3	..	40252b
22	2774	24.3	+20 57	9.1	10.1	Ko	1	..	37720i	72	717	24.5	-81 6	9.5	9.5	Ao	1	..	40252b
23	4344	24.3	-18 6	8.8	8.9	A2	4	..	21931b	73	677	24.6	+73 46	8.8	9.2	F5	3	..	38732i
24	4119	24.3	-19 36	9.9	10.0	Go	2	..	40295b	74	2178	24.6	+50 40	7.85	8.92	K2	4	..	38741i
25	4120	24.3	-19 38	9.9	10.3	F5	2	..	40295b	75	2922	24.6	+25 39	8.2	9.2	Ko	1	..	38734i
26	11377	24.3	-28 16	9.7	10.7	A3	2	..	40714b	76	2968	24.6	+2 6	8.6	9.1	F8	3	..	37729i
27	9980	24.3	-42 4	9.6	10.4	Ko	1	..	37602b	77	4130	24.6	-15 21	8.3	9.5	K5	2	..	40295b
28	10486	24.3	-43 1	9.7	10.2	Ko	2	..	37602b	78	10403	24.6	-27 26	9.9	10.2	Go	2	..	40714b
29	9188	24.3	-51 37	8.6	9.2	K2	2	..	41517b	79	6785	24.6	-56 32	10.8	10.8	B9	1	..	23021b
30	6602	24.3	-55 10	10.6	10.7	A5	2	..	23021b	80	6010	24.6	-58 31	9.2	9.8	B8	2	..	23021b
31	7079	24.3	-57 34	10.2	11.2	Ko	1	..	23021b	81	5029	24.6	-61 17	8.5	9.3	K5	3	..	19750b
32	6003	24.3	-58 24	10.1	10.1	B9	1	..	23021b	82	1877	24.6	-71 36	9.2	9.8	G	2	..	14146b
33	3614	24.3	-63 30	10.1	10.1	Ao	1	..	19750b	83	1206	24.6	-75 48	8.6	9.6	Ko	1	..	40252b
34	3201	24.3	-64 18	9.2	9.3	A2	3	..	19750b	84	853	24.6	-79 55	9.2	9.5	Fo	1	..	40252b
35	2789	24.3	-66 59	7.7	7.8	A3	9	..	21824b	85	2789	24.7	+16 44	6.55	7.55	Ko	7	..	37720i
36	1202	24.3	-75 59	9.1	9.1	Ao	4	..	40252b	86	3088	24.7	+1 30	9.0	9.6	Go	2	..	16850b
37	852	24.3	-79 38	8.7	9.7	Ko	1	..	40252b	87	4126	24.7	-21 58	10.1	10.3	Go	2	..	21931b
38	2841	24.4	+22 47	8.1	9.2	K2	4	..	37720i	88	10405	24.7	-27 8	11.4	10.4	F8	1	..	40714b
39	2953	24.4	+13 23	7.08	7.86	G5	5	..	37689i	89	10344	24.7	-35 17	7.8	7.8	A3	4	..	40701b
40	2864	24.4	+10 18	9.1	9.7	G	2	..	37689i	90	9987	24.7	-41 16	8.9	10.0	Ko	2	..	19404b
41	2967	24.4	+2 10	8.7	9.2	F8	3	..	37729i	91	9988	24.7	-42 3	8.9	9.4	Ko	4	..	19404b
42	4218	24.4	-14 28	8.7	9.5	G5	5	..	40584b	92	9697	24.7	-49 49	8.1	8.4	Fo	5	..	39069b
43	10910	24.4	-26 55	9.2	9.6	Ko	3	..	40714b	93	9522	24.7	-50 36	7.9	8.9	Ko	4	..	39069b
44	12003	24.4	-31 53	10.6	9.6	Go	1	..	39299b	94	6557	24.7	-54 47	9.7	10.7	Ko	2	..	23021b
45	10846	24.4	-32 59	9.8	9.9	G5	1	..	39299b	95	6603	24.7	-55 28	8.1	9.5	Ko	5	..	23021b
46	10558	24.4	-33 14	8.1	8.6	Ko	4	..	40701b	96	6786	24.7	-56 28	9.4	10.4	Ko	3	..	23021b
47	10408	24.4	-39 1	8.2	9.6	F5	3	..	41391b	97	3616	24.7	-63 23	9.6	10.8	K5	1	..	19750b
48	10131	24.4	-46 51	9.2	8.7	B9	5	..	39069b	98	2791	24.7	-66 11	10.1	10.1	B9	4	..	21824b
49	9190	24.4	-51 55	8.5	8.9	Ko	3	..	41517b	99	1879	24.7	-71 42	9.2	10.2	Ko	1	..	14146b
50	6543	24.4	-53 56	9.8	9.8	Ao	3	..	40421b	100	2875	24.8	+39 5	6.60	6.88	Fo	4	0,9	38498i

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

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15<sup>h</sup> 24<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3113	24.8	+20 44	9.5	10.7	K5	1	..	37720i	51	6561	25.1	-54 35	9.2	9.6	B8	5	..	23021b
2	3049	24.8	+9 34	9.1	9.5	F5	2	..	37689i	52	6562	25.1	-54 57	10.0	11.0	Ko	1	..	23021b
3	3019	24.8	+4 59	10.1	10.4	Fo	3	..	16850b	53	5875	25.1	-60 56	6.8	6.9	A2	9	..	19750b
4	4219	24.8	-6 31	7.48	8.55	K2	6	..	41549b	54	5042	25.1	-61 36	9.3	9.3	B9	2	..	19750b
5	4246	24.8	-20 23	6.10	6.5	A2	5	..	43244b	55	2399	25.1	-70 0	8.9	9.7	G5	3	..	14146b
6	10493	24.8	-42 58	10.1	10.2	A2	2	..	37602b	56	2495	25.2	+27 26	8.5	9.5	Ko	2	..	38422i
7	6558	24.8	-54 55	9.4	10.4	Ko	4	..	23021b	57	2790	25.2	+16 32	7.37	8.37	Ko	4	..	37720i
8	6604	24.8	-55 9	10.1	10.4	F2	3	..	23021b	58	3089	25.2	+0 55	10.5	11.6	K2	1	..	16850b
9	6787	24.8	-57 4	7.2	7.7	Fo	8	..	23021b	59	2973	25.2	-1 0	8.9	9.7	G5	3	..	41549b
10	6014	24.8	-58 11	8.3	10.4	K2	2	..	23021b	60	4221	25.2	-6 17	8.7	9.1	F5	3	..	41549b
11	6015	24.8	-58 36	9.3	10.1	G5	1	..	23021b	61	4222	25.2	-7 9	9.4	10.4	Ko	1	..	41222b
12	6095	24.8	-59 28	9.3	9.2	B5	3	..	23021b	62	3957	25.2	-11 57	9.7	10.5	G5	1	..	40584b
13	6097	24.8	-59 39	9.0	9.3	Fo	5	..	23021b	63	3968	25.2	-23 6	9.2	9.7	G5	3	..	21931b
14	2792	24.8	-66 35	8.9	8.9	Ao	7	..	21824b	64	10070	25.2	-47 7	9.1	8.6	Fo	4	..	39069b
15	2489	24.8	-68 16	7.9	8.3	F5	7	..	14146b	65	9533	25.2	-50 44	9.3	9.2	F5	3	..	39069b
16	831	24.9	+68 35	8.3	9.3	Ko	1	..	37752i	66	9534	25.2	-50 58	9.5	9.5	K2	2	..	41517b
17	2691	24.9	+35 2	9.5	10.3	G5	2	..	37800i	67	7082	25.2	-57 27	8.6	9.2	B8	5	..	23021b
18	3054	24.9	+6 41	9.5	10.3	G5	1	..	16850b	68	7081	25.2	-57 51	8.5	9.5	F2	5	..	23021b
19	4037	24.9	-7 43	8.7	8.8	A2	3	..	41222b	69	3617	25.2	-64 2	9.2	9.3	A2	2	..	19750b
20	4155	24.9	-9 13	9.7	10.3	Go	1	..	41222b	70	2493	25.2	-68 33	7.5	8.9	Ma	5	..	14146b
21	3955	24.9	-11 51	9.2	9.3	A5	3	..	40584b	71	1607	25.2	-74 1	8.6	9.0	F5	6	..	14146b
22	4179	24.9	-13 40	9.4	10.4	Ko	2	..	40584b	72	1061	25.2	-76 21	8.0	9.1	K2	3	..	40252b
23	4128	24.9	-21 33	7.9	8.1	Go	7	..	21931b	73	2819	25.3	+23 39	8.5	8.9	F5	4	..	37720i
24	4129	24.9	-21 51	8.8	8.8	A2	5	..	21931b	74	2972	25.3	+18 50	7.17	8.17	Ko	7	..	37720i
25	12008	24.9	-31 42	9.9	10.0	Ko	1	..	39299b	75	12346	25.3	-23 19	7.30	8.3	Ko	7	..	21931b
26	10416	24.9	-38 36	8.9	9.9	Go	2	..	41391b	76	10501	25.3	-42 44	9.3	9.3	Ao	5	..	37602b
27	9693	24.9	-40 43	8.9	9.9	K2	2	..	19404b	77	10071	25.3	-47 17	9.3	9.2	G5	3	..	39069b
28	10064	24.9	-47 58	9.0	9.3	K2	2	..	39069b	78	10069	25.3	-47 41	9.3	9.8	K5	1	..	39069b
29	10040	24.9	-48 50	10.1	9.5	Ao	2	..	39069b	79	9535	25.3	-50 37	9.9	9.3	Ao	3	..	39069b
30	6559	24.9	-54 22	8.5	8.7	B9	7	..	40421b	80	6563	25.3	-54 33	8.9	10.3	K2	3	..	23021b
31	5874	24.9	-60 34	9.1	9.0	B9	3	..	19750b	81	7083	25.3	-57 51	8.5	9.5	F2	5	..	23021b
32	615	25.0	+73 57	8.8	9.8	Ko	1	..	38732i	82	5046	25.3	-61 30	9.1	8.6	B9	6	..	19750b
33	834	25.0	+70 8	9.4	9.9	F8	2	..	38737i	83	2401	25.3	-69 43	9.6	9.7	A5	2	..	14146b
34	1877	25.0	+51 56	9.1	10.1	Ko	1	..	38736i	84	1878	25.4	+52 4	9.4	10.2	G5	1	..	38736i
35	3022	25.0	+5 16	9.1	10.1	Ko	3	..	16850b	85	2974	25.4	-0 31	10.5	11.5	Ko	1	..	16850b
36	4180	25.0	-13 21	9.4	9.7	F2	4	..	40584b	86	4159	25.4	-9 59	9.4	10.0	Go	1	..	41222b
37	4099	25.0	-16 16	5.86	6.86	Ko	..	0.9	56,136	87	4132	25.4	-15 30	7.65	7.79	A5	7	..	40295b
38	10564	25.0	-33 28	6.90	7.3	A2	6	0.8	43316b	88	4083	25.4	-18 30	8.0	8.1	A2	8	..	21931b
39	10042	25.0	-48 36	9.7	9.8	G	1	..	39069b	89	10310	25.4	-37 19	8.7	10.2	K2	1	..	41391b
40	9527	25.0	-50 31	7.5	8.4	Mb	4	..	39069b	90	9983	25.4	-44 4	7.5	8.6	K2	5	..	19404b
41	8475	25.0	-52 31	9.0	8.9	B9	7	R	41517b	91	10190	25.4	-44 43	7.2	7.2	B8	8	..	39069b
42	6606	25.0	-55 9	9.3	9.3	B9	5	..	23021b	92	9717	25.4	-49 54	10.1	9.5	Ao	3	..	39069b
43	6605	25.0	-55 55	10.8	10.8	Ao	2	..	23021b	93	7084	25.4	-58 2	9.9	9.9	B8	4	..	23021b
44	6788	25.0	-56 28	10.5	11.0	F8	1	..	23021b	94	3092	25.4	-65 26	9.7	10.7	Ko	1	..	21785b
45	6019	25.0	-58 19	9.6	9.6	Ao	3	..	23021b	95	2909	25.4	-67 51	8.9	8.9	Ao	5	..	14146b
46	1880	25.0	-71 41	9.7	9.7	Ao	3	..	14146b	96	1820	25.4	-72 30	7.6	7.6	B9	7	..	35947b
47	4267	25.1	-12 24	8.5	8.6	A3	5	..	40584b	97	616	25.5	+74 18	8.9	9.0	A2	2	..	38732i
48	9981	25.1	-43 19	8.4	9.0	Go	5	..	37602b	98	2605	25.5	+41 54	8.2	9.2	Ko	1	..	38496i
49	10044	25.1	-48 47	9.9	9.8	Ao	1	..	39069b	99	3025	25.5	+5 36	8.5	9.7	K5	3	..	16850b
50	9531	25.1	-50 19	8.07	8.3	Fo	6	..	39069b	100	4039	25.5	-7 26	9.7	10.5	G5	1	..	45507b

## THE HENRY DRAPER CATALOGUE.

138200

15<sup>h</sup> 25<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4118	25.5	-11 10	10.3	10.8	F8	1	..	40584b	51	3900	25.8	-4 20	8.7	9.2	F8	4	..	41549b
2	12302	25.5	-30 42	9.4	10.2	Ko	1	..	40714b	52	4090	25.8	-6 3	9.2	10.2	Ko	1	..	41222b
3	10356	25.5	-35 12	8.93	9.9	Ko	2	..	39299b	53	4268	25.8	-12 39	7.60	8.10	F8	7	..	40584b
4	10425	25.5	-38 16	6.34	6.8	A3	..	0.6	56,136	54	4102	25.8	-17 3	10.1	10.7	Go	1	..	40295b
5	10504	25.5	-42 36	9.9	10.2	A	2	..	19404b	55	10009	25.8	-41 12	8.6	8.7	F2	6	..	19404b
6	8487	25.5	-52 40	8.3	8.7	Ao	6	..	41517b	56	10511	25.8	-42 40	9.9	10.4	Ko	1	..	19404b
7	6613	25.5	-55 20	9.5	9.6	A3	5	..	23021b	57	10197	25.8	-44 53	9.9	9.8	K2	2	..	19404b
8	6117	25.5	-59 12	9.2	9.3	A2	5	..	23021b	58	9992	25.8	-45 35	9.2	9.0	A5	3	..	39069b
9	5053	25.5	-61 28	9.3	9.3	Ao	2	..	19750b	59	9988	25.8	-45 49	9.9	9.5	A3	2	..	39069b
10	5052	25.5	-61 44	8.0	7.6	Ao	7	..	19750b	60	10149	25.8	-47 4	9.2	8.7	A5	3	..	39069b
11	3619	25.5	-64 4	9.6	9.6	Ao	2	..	19750b	61	2912	25.8	-68 2	8.8	8.8	B9	5	..	14146b
12	1133	25.5	-77 54	7.0	7.1	A2	8	..	13442b	62	2089	25.8	-70 25	9.3	9.7	F5	3	..	14146b
13	2227	25.6	+47 35	5.96	5.96	Ao	9	..	38496i	63	2090	25.8	-70 53	8.0	9.1	K2	5	..	14146b
14	2873	25.6	+24 11	7.54	7.60	A2	8	..	37720i	64	1433	25.8	-74 5	8.9	9.9	Ko	2	..	14146b
15	2973	25.6	+19 24	8.1	9.1	Ko	4	..	37720i	65	1509	25.9	+61 1	6.08	7.26	K5	8	..	38764i
16	2844	25.6	+12 20	7.29	8.29	Ko	5	..	37689i	66	2874	25.9	+24 6	7.47	7.47	Ao	8	..	37720i
17	3026	25.6	+4 55	9.8	10.4	Go	3	..	16850b	67	3793	25.9	-4 0	8.5	9.5	Ko	2	..	41549b
18	4089	25.6	-5 29	9.1	9.2	A2	2	..	41549b	68	4128	25.9	-19 49	6.10	6.5	A5	..	..	56,136
19	3959	25.6	-11 32	9.9	10.5	Go	1	..	40584b	69	12356	25.9	-24 0	10.4	9.7	Ao	3	..	21931b
20	10867	25.6	-32 17	8.7	9.0	Ko	3	..	40701b	70	11393	25.9	-28 24	9.9	10.1	F8	2	..	40714b
21	10868	25.6	-32 32	6.56	7.1	B8	5	0,10	43980b	71	10316	25.9	-37 33	9.2	9.0	A2	3	..	41391b
22	10003	25.6	-42 1	9.2	8.7	A2	6	..	19404b	72	6615	25.9	-55 6	9.6	9.6	Ao	4	..	23021b
23	9986	25.6	-43 41	9.9	10.1	Ko	1	2,1	37602b	73	6792	25.9	-56 53	9.9	10.3	F5	3	..	23021b
24	6567	25.6	-54 26	8.6	9.3	Ko	4	..	40421b	74	6034	25.9	-58 11	8.5	8.9	Ao	7	..	23021b
25	7085	25.6	-57 51	10.6	10.7	A2	2	..	23021b	75	6037	25.9	-58 45	9.0	9.5	B9	3	..	23021b
26	3204	25.6	-65 1	8.98	8.4	B9	6	..	21785b	76	5885	25.9	-60 28	7.38	7.3	B9	9	..	19750b
27	..	25.6	-65 39	..	..	Ko	1	..	21785b	77	2182	26.0	+50 47	8.8	9.3	F8	3	..	38736i
28	3093	25.6	-66 1	9.7	10.3	Go	2	..	21785b	78	2594	26.0	+32 58	8.3	8.9	Go	3	E	37800i
29	659	25.6	-82 21	8.5	8.6	A5	6	..	13442b	79	2972	26.0	+2 1	var.	var.	F5	1	R	16850b
30	678	25.7	+73 12	8.8	9.8	Ko	2	..	38732i	80	2976	26.0	-0 27	9.5	10.7	K5	1	..	16850b
31	2496	25.7	+27 34	8.7	9.2	F8	2	..	38734i	81	4183	26.0	-13 58	8.7	9.8	K2	3	..	40584b
32	2694	25.7	+25 51	7.88	8.95	K2	3	..	38734i	82	4104	26.0	-16 41	8.5	9.9	Ma	3	..	40295b
33	4182	25.7	-13 52	8.8	9.2	F5	5	..	40584b	83	4103	26.0	-16 57	9.7	10.7	Ko	1	..	40295b
34	4133	25.7	-15 26	9.7	10.1	F5	3	3,3	40295b	84	3969	26.0	-22 30	9.7	10.6	G5	1	..	21931b
35	12354	25.7	-23 52	9.2	10.8	Ko	1	..	21931b	85	10319	26.0	-37 44	7.56	7.1	Ao	4	..	43316b
36	10415	25.7	-28 4	7.6	9.0	K2	4	..	40714b	86	10013	26.0	-41 46	10.2	10.2	A2	2	..	19404b
37	10869	25.7	-32 38	9.6	10.0	G5	1	..	39299b	87	10085	26.0	-47 28	9.3	9.2	Ko	2	..	39069b
38	10004	25.7	-41 51	10.0	9.9	B9	3	..	19404b	88	3096	26.0	-65 38	9.6	9.6	B9	3	..	21785b
39	8496	25.7	-52 37	9.0	9.2	B9	3	..	41517b	89	1134	26.0	-77 35	6.04	7.3	K2	7	0,7 R	40252b
40	6790	25.7	-56 5	10.4	10.4	B9	4	..	23021b	90	3055	26.1	+8 55	6.46	6.80	F2	9	..	37689i
41	6791	25.7	-56 57	9.7	10.8	K2	1	..	23021b	91	2977	26.1	-0 23	9.8	10.9	K2	2	..	16850b
42	3205	25.7	-64 45	8.5	8.6	A2	6	0,6	19750b	92	3960	26.1	-11 36	9.9	11.0	K2	1	..	40584b
43	2910	25.7	-67 5	9.7	9.8	A2	3	..	21785b	93	4134	26.1	-15 57	10.1	10.7	Go	2	..	40295b
44	2499	25.7	-68 15	8.7	9.7	Ko	3	..	14146b	94	4129	26.1	-19 21	9.4	10.3	G5	2	..	21931b
45	1414	25.8	+62 37	6.37	6.37	Ao	10	..	38764i	95	10419	26.1	-27 49	7.82	8.3	Ao	7	..	40714b
46	2692	25.8	+35 32	8.2	8.7	F8	5	E	37800i	96	12311	26.1	-30 48	8.1	8.8	A5	6	..	40714b
47	3115	25.8	+20 1	9.00	10.07	K2	1	..	37720i	97	10873	26.1	-32 56	8.6	8.7	A2	2	..	40701b
48	3020	25.8	+4 7	9.0	9.6	Go	1	R	16850b	98	9549	26.1	-50 14	9.04	9.5	K2	2	..	39069b
49	3020	25.8	+4 7	9.0	9.6	G5	2	..	16850b	99	6794	26.1	-56 6	9.6	10.4	G5	3	..	23021b
50	3044	25.8	+3 44	10.5	11.3	G5	1	..	16850b	100	2501	26.1	-68 47	9.7	10.2	F8	1	..	14146b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

138300

15<sup>h</sup> 26<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	730	26.2	+71 40	8.2	9.2	Ko	2	..	37752i	51	4612	26.4	-62 37	9.5	9.5	Ao	2	..	1975ob
2	2300	26.2	+48 5	6.78	6.78	Ao	7	0,6	38741i	52	2407	26.4	-69 7	9.4	10.5	K2	1	..	14146b
3	2229	26.2	+47 12	9.4	9.9	F8	2	..	38741i	53	895	26.5	+67 1	9.1	9.7	Go	3	..	38737i
4	2651	26.2	+34 7	8.6	9.0	F5	3	E	37800i	54	2893	26.5	+40 42	7.88	7.94	A2	3	..	38496i
5	2439	26.2	+28 0	8.3	8.3	Ao	6	..	38422i	55	3039	26.5	+ 8 48	9.1	9.2	A2	3	..	9475b
6	3033	26.2	+17 58	8.0	8.1	A2	4	..	37720i	56	2973	26.5	+ 2 13	9.8	10.4	Go	2	..	1685ob
7	2815	26.2	+11 11	9.5	9.9	F5	1	..	37689i	57	4224	26.5	- 6 48	8.5	8.5	Ao	5	2,4	41222b
8	3091	26.2	+ 1 12	9.3	9.7	F5	2	..	1685ob	58	4105	26.5	-16 11	9.9	10.7	G5	1	..	40295b
9	4092	26.2	- 6 1	9.4	10.0	Go	1	..	41222b	59	10929	26.5	-26 18	8.7	9.0	F5	5	..	40714b
10	4119	26.2	-10 54	8.2	8.7	F8	6	..	40584b	60	10579	26.5	-33 37	9.3	9.9	G5	3	..	39299b
11	4250	26.2	-20 16	8.58	8.8	F8	5	..	21931b	61	10158	26.5	-46 44	8.7	8.0	A2	5	..	39069b
12	11754	26.2	-29 51	9.2	9.3	Ao	4	..	40714b	62	10092	26.5	-47 12	7.4	7.3	Fo	7	..	39069b
13	9995	26.2	-45 40	9.7	9.2	Ao	3	..	39069b	63	6795	26.5	-56 44	7.3	8.3	Ko	8	..	23021b
14	9226	26.2	-51 15	10.3	9.5	Ao	1	..	41517b	64	1614	26.5	-73 8	9.4	10.5	K2	1	..	14146b
15	6568	26.2	-54 17	10.7	10.7	Ao	2	..	23021b	65	1613	26.5	-73 13	9.6	10.2	Go	2	..	14146b
16	7089	26.2	-58 3	10.8	10.8	A	1	..	23021b	66	510	26.6	+81 24	7.30	8.08	G5	6	0,3	37599i
17	6131	26.2	-59 19	9.0	9.5	F8	4	..	23021b	67	1590	26.6	+57 47	6.92	7.42	F8	8	..	38764i
18	4608	26.2	-62 51	9.4	9.5	A2	2	..	1975ob	68	3035	26.6	+18 42	8.9	9.9	Ko	1	..	37720i
19	3097	26.2	-65 55	7.8	7.8	B8	6	..	21785b	69	3092	26.6	+ 1 14	7.7	8.3	Go	8	..	1685ob
20	1885	26.2	-71 38	8.7	9.7	Ko	3	..	14146b	70	3063	26.6	- 1 43	8.3	8.9	Go	5	..	41549b
21	466	26.3	+79 41	9.06	10.06	K	1	..	37809i	71	4009	26.6	- 2 10	8.67	9.23	Go	3	R	41549b
22	2873	26.3	+17 48	8.5	8.5	A	4	..	37720i	72	4044	26.6	- 8 5	8.9	9.7	G5	2	..	45507b
23	3045	26.3	+ 3 4	9.8	10.6	G5	5	..	1685ob	73	3972	26.6	-22 42	10.1	10.0	F8	2	..	21931b
24	4185	26.3	-13 52	9.1	9.7	Go	4	..	40584b	74	10440	26.6	-38 45	8.6	10.0	Ko	2	..	41391b
25	4356	26.3	-18 9	8.7	9.7	Ko	3	..	21931b	75	10031	26.6	-41 43	9.3	9.3	A2	4	..	19404b
26	10206	26.3	-44 23	11.0	9.8	G5	1	..	19404b	76	10210	26.6	-44 26	10.1	9.8	Ko	1	..	19404b
27	10154	26.3	-46 51	9.7	9.5	Ko	1	..	39069b	77	6561	26.6	-53 44	9.7	11.1	Mb	1	..	23021b
28	9737	26.3	-49 48	10.1	9.5	Ao	2	..	39069b	78	6574	26.6	-54 54	10.3	10.4	A2	2	..	23021b
29	9554	26.3	-50 41	9.3	8.9	B9	5	..	39069b	79	3207	26.6	-64 10	9.5	9.6	A2	2	..	1975ob
30	9227	26.3	-51 17	10.3	9.8	B9	1	..	41517b	80	1436	26.6	-74 5	8.1	9.1	Ko	6	..	14146b
31	6616	26.3	-55 57	9.2	9.8	Go	5	..	23021b	81	835	26.7	+70 37	9.1	9.6	F8	3	..	38737i
32	6044	26.3	-58 8	9.1	10.1	Ko	1	..	23021b	82	2013	26.7	+50 52	8.4	8.9	F8	4	..	38736i
33	6137	26.3	-59 16	9.1	10.3	K5	2	..	23021b	83	2651	26.7	+37 9	6.52	7.52	Ko	7	..	37800i
34	6134	26.3	-59 27	8.2	8.6	Ao	8	..	23021b	84	2777	26.7	+21 41	8.9	9.9	Ko	1	..	37720i
35	5891	26.3	-60 9	9.8	9.8	Ao	2	..	23021b	85	2874	26.7	+17 39	9.1	9.9	G5	1	..	37720i
36	2507	26.3	-68 21	9.4	9.7	F2	4	..	14146b	86	3029	26.7	+ 5 5	10.5	11.5	Ko	1	..	1685ob
37	2505	26.3	-68 56	9.8	10.6	G5	1	..	14146b	87	3065	26.7	- 2 1	9.3	9.4	A5	1	..	41549b
38	1756	26.4	+55 33	6.30	6.36	A2	10	..	38736i	88	4227	26.7	- 6 56	9.4	10.5	K2	1	..	41222b
39	2892	26.4	+40 16	7.60	8.10	F8	2	..	38496i	89	3998	26.7	- 8 41	9.2	10.2	Ko	1	..	41222b
40	2596	26.4	+33 36	8.5	9.3	G5	2	E	37800i	90	4272	26.7	-13 1	9.7	10.8	K2	1	..	40584b
41	2742	26.4	+31 39	6.35	6.41	A2	..	2,8	56,92	91	4225	26.7	-14 39	10.3	11.5	K5	1	..	40584b
42	4130	26.4	-19 33	9.4	9.7	Go	2	..	21931b	92	12363	26.7	-23 35	9.2	9.4	Ko	3	..	21931b
43	4135	26.4	-21 37	7.03	7.8	B9	10	..	21931b	93	10428	26.7	-27 31	9.7	10.1	F8	1	..	40714b
44	12359	26.4	-23 32	7.12	8.3	Mb	6	..	21931b	94	11758	26.7	-29 14	8.5	9.6	G5	3	..	40714b
45	12360	26.4	-23 51	10.4	9.7	A2	3	..	21931b	95	9731	26.7	-40 9	6.53	7.8	Ko	10	R	19404b
46	12033	26.4	-31 34	9.2	8.7	Ao	3	..	40701b	96	10213	26.7	-44 41	9.7	9.3	A2	5	..	19404b
47	10057	26.4	-48 39	7.6	8.6	Ko	6	..	39069b	97	10094	26.7	-47 50	10.3	9.8	F2	1	..	39069b
48	8514	26.4	-52 8	8.5	9.5	K5	3	..	41517b	98	9748	26.7	-49 45	8.3	9.2	Go	4	..	39069b
49	6559	26.4	-53 32	10.4	10.4	B9	2	..	41517b	99	6562	26.7	-53 43	10.7	10.7	Ao	2	..	23021b
50	6617	26.4	-55 41	10.2	10.8	Go	1	..	23021b	100	6796	26.7	-56 11	8.9	8.7	B9	7	..	23021b

## THE HENRY DRAPER CATALOGUE.

138400

15<sup>h</sup> 26<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3208	26.7	-64 31	9.3	9.3	Ao	3	0,2	21785b	51	9246	27.0	-51 18	9.3	9.2	Ao	3	..	41517b
2	3098	26.7	-65 57	9.7	10.1	F5	2	..	21785b	52	4622	27.0	-62 43	8.0	9.0	Ko	2	..	19750b
3	1889	26.7	-71 34	..	9.7	Pec.	3	R	14146b	53	3621	27.0	-63 24	9.6	9.6	Ao	2	..	19750b
4	1213	26.7	-75 19	8.9	9.4	F8	2	..	14146b	54	2890	27.1	+14 26	7.99	8.77	G5	2	..	37689i
5	474	26.8	+80 49	8.9	9.4	F8	3	..	37809i	55	2868	27.1	+10 0	8.22	8.72	F8	4	..	37689i
6	1415	26.8	+62 5	6.79	6.79	Ao	10	..	38764i	56	3031	27.1	+4 51	9.8	10.4	Go	3	..	16850b
7	2696	26.8	+35 32	9.1	9.6	F8	2	E	37800i	57	3963	27.1	-12 2	10.1	11.1	Ko	1	..	40584b
8	2745	26.8	+31 0	8.9	9.2	Fo	2	..	38422i	58	4362	27.1	-17 25	9.7	10.3	Go	2	..	40295b
9	3040	26.8	+8 9	8.1	8.9	G5	3	..	37689i	59	4361	27.1	-17 35	9.4	10.0	Go	4	..	40295b
10	4164	26.8	-9 14	8.1	8.1	Ao	7	..	41222b	60	11765	27.1	-29 23	10.4	9.9	Ao	3	..	40714b
11	4226	26.8	-14 14	10.6	11.0	F5	2	..	40584b	61	10539	27.1	-42 43	9.9	10.4	Ko	1	..	19404b
12	4135	26.8	-15 55	10.1	11.1	Ko	1	..	40295b	62	6061	27.1	-58 58	9.0	9.8	Ma	2	..	23021b
13	4135	26.8	-19 20	5.46	5.9	A2	..	..	56,92	63	2919	27.1	-67 56	8.8	9.1	Fo	4	..	14146b
14	4134	26.8	-19 39	8.9	9.7	G5	2	..	21931b	64	1890	27.1	-71 52	8.5	9.5	Ko	4	..	14146b
15	4137	26.8	-21 27	9.9	9.7	Ao	3	..	21931b	65	147	27.2	+87 23	8.07	8.57	F8	4	..	37294i
16	10583	26.8	-33 47	9.8	9.4	A2	3	..	39299b	66	1198	27.2	+62 56	9.4	10.2	G5	1	..	38764i
17	10067	26.8	-48 29	9.7	9.2	A3	3	..	39069b	67	2822	27.2	+22 53	8.7	9.5	G5	2	..	37720i
18	9236	26.8	-51 15	10.6	9.5	Ao	1	..	41517b	68	3058	27.2	+6 11	8.7	9.8	K2	2	..	16850b
19	1827	26.8	-72 19	9.4	9.5	A2	3	..	14146b	69	3024	27.2	+4 12	9.1	10.1	Ko	3	..	16850b
20	1215	26.8	-75 14	9.31	9.7	K5	2	..	14146b	70	3066	27.2	-1 26	8.5	9.7	K5	1	..	41549b
21	2074	26.9	+46 44	7.74	8.81	K2	5	3,2	38741i	71	4121	27.2	-10 50	9.7	10.8	K2	1	..	40584b
22	2655	26.9	+34 49	6.72	6.72	Ao	9	..	37800i	72	10968	27.2	-25 27	7.52	8.9	K2	5	..	40714b
23	3365	26.9	+0 31	8.9	9.2	Fo	5	..	16850b	73	10166	27.2	-46 37	9.5	9.2	G5	3	..	39069b
24	3366	26.9	+0 27	9.5	10.5	Ko	1	..	16850b	74	10103	27.2	-47 45	9.1	9.2	Ko	2	..	39069b
25	4163	26.9	-10 6	6.67	7.23	Go	10	..	40584b	75	9571	27.2	-50 46	9.5	8.9	A2	5	..	39069b
26	4088	26.9	-19 3	9.1	9.1	B9	6	..	21931b	76	6621	27.2	-55 23	8.5	9.2	B9	6	..	23021b
27	4255	26.9	-20 31	9.4	10.1	G5	2	..	21931b	77	6798	27.2	-56 39	8.5	8.6	B8	7	..	23021b
28	9965	26.9	-39 41	9.8	9.4	A3	4	1,4	19404b	78	3212	27.2	-64 35	9.7	10.9	K5	1	..	21785b
29	9734	26.9	-40 16	9.3	10.0	K2	2	..	19404b	79	2513	27.2	-68 56	9.4	9.7	Fo	3	..	14146b
30	10002	26.9	-43 45	9.1	8.4	Ao	5	..	19404b	80	1828	27.2	-72 27	9.6	9.7	A3	2	..	14146b
31	10214	26.9	-44 32	10.1	9.8	F8	2	..	19404b	81	2609	27.3	+41 10	5.15	6.33	K5	..	0,8R	56,92
32	10068	26.9	-48 39	9.1	8.4	A2	6	..	39069b	82	3117	27.3	+20 44	7.82	8.16	F2	6	..	37720i
33	6618	26.9	-55 40	10.0	10.8	G5	1	..	23021b	83	2795	27.3	+16 25	7.6	7.6	Ao	5	2,5	37720i
34	6619	26.9	-56 4	10.3	10.3	Ao	3	..	23021b	84	3043	27.3	+8 45	8.6	9.4	G5	2	..	9475b
35	6057	26.9	-58 15	8.6	8.9	A2	6	..	23021b	85	4110	27.3	-16 31	5.59	5.42	B3	..	R	56,92
36	1214	26.9	-75 56	9.1	9.6	F8	1	..	40252b	86	4111	27.3	-16 54	8.5	8.8	F2	7	..	40295b
37	661	26.9	-82 40	8.7	9.9	K5	1	..	43458b	87	3975	27.3	-23 7	8.1	9.1	K5	4	..	21931b
38	2232	27.0	+47 31	9.1	10.1	Ko	1	..	38741i	88	12155	27.3	-24 9	6.29	6.9	A3	7	..	43244b
39	2668	27.0	+38 31	7.9	8.7	G5	1	..	38498i	89	11767	27.3	-29 53	9.9	10.0	G	1	..	40714b
40	2670	27.0	+30 20	8.8	9.8	Ko	1	..	38734i	90	10887	27.3	-32 51	8.4	9.9	K2	2	..	39299b
41	2889	27.0	+14 38	7.89	8.67	G5	4	..	37689i	91	10590	27.3	-34 1	8.3	8.4	A2	4	..	40701b
42	3023	27.0	+4 25	8.9	9.5	Go	6	..	16850b	92	10338	27.3	-37 18	7.94	9.0	Ma	4	..	41391b
43	4136	27.0	-15 16	8.55	9.33	G5	3	..	40295b	93	10042	27.3	-41 22	9.2	9.1	Fo	5	..	19404b
44	11763	27.0	-29 19	8.5	10.8	K5	1	..	40714b	94	10008	27.3	-43 23	8.7	9.2	Fo	4	..	19404b
45	9966	27.0	-39 7	8.9	10.2	K2	2	..	41391b	95	9761	27.3	-49 58	9.88	9.5	Ao	2	..	39069b
46	10536	27.0	-42 19	9.3	9.4	Ao	4	..	19404b	96	4624	27.3	-62 55	8.9	8.9	Ao	3	..	19750b
47	10537	27.0	-42 48	8.7	9.6	Ko	3	..	19404b	97	3213	27.3	-64 46	7.20	6.7	B9	10	..	21785b
48	10004	27.0	-43 34	10.3	10.1	A3	2	..	19404b	98	3100	27.3	-65 16	6.52	6.9	Fo	..	2,10	56,136
49	9755	27.0	-50 4	9.18	9.6	F2	2	..	39069b	99	2796	27.3	-66 12	6.75	9.2	K2	5	..	21785b
50	9569	27.0	-50 31	7.9	9.3	Ma	1	..	39069b	100	1829	27.3	-72 48	8.6	9.6	Ko	3	..	14146b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

138500

15<sup>h</sup> 27<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	1138	27.3	-77 49	8.4	8.5	A2	3	..	40252b	51	9581	27.7	-50 6	9.48	9.6	Ko	1	..	39069b
2	855	27.3	-79 22	8.6	9.4	G5	1	..	40252b	52	6806	27.7	-56 44	9.7	10.8	K2	1	..	23021b
3	12156	27.4	-24 41	9.4	9.0	B5	5	..	40714b	53	3215	27.7	-64 27	9.5	9.6	A2	3	0,2	21785b
4	10339	27.4	-37 43	9.2	9.9	Ko	1	..	41391b	54	1750	27.8	+54 20	8.8	9.3	F8	2	..	38736i
5	9970	27.4	-39 43	5.94	7.3	Ma	..	0.8-	56,136	55	1751	27.8	+54 11	9.4	9.8	F5	1	..	38736i
6	10169	27.4	-46 53	7.6	8.0	Ko	4	..	39069b	56	2236	27.8	+47 41	8.6	8.7	A2	3	..	38741i
7	8540	27.4	-52 41	8.0	8.6	Ko	5	..	41517b	57	2798	27.8	+15 58	8.0	8.8	G5	2	..	37720i
8	6801	27.4	-56 9	9.8	9.8	B9	4	..	23021b	58	2871	27.8	+10 8	8.4	9.6	K5	2	..	9475b
9	5908	27.4	-60 24	8.7	9.5	G5	2	..	19750b	59	3032	27.8	+4 52	10.5	11.6	K2	1	..	16850b
10	3101	27.4	-66 0	9.2	9.3	A5	3	..	21785b	60	3026	27.8	+4 15	10.1	10.7	Go	1	..	16850b
11	1786	27.5	+53 27	9.7	10.5	G5	1	..	38736i	61	3093	27.8	+1 36	9.8	10.8	Ko	1	..	16850b
12	2597	27.5	+32 57	8.5	8.9	F5	3	E	37800i	62	2982	27.8	-0 51	5.76	6.76	Ko	10	R	41549b
13	3368	27.5	+0 1	9.38	10.56	K5	1	..	16850b	63	4141	27.8	-19 43	9.4	10.0	G5	1	..	21931b
14	4227	27.5	-15 3	8.66	9.84	K5	2	..	40295b	64	10464	27.8	-39 0	6.46	6.8	B9	5	0,10	43859b
15	12047	27.5	-31 41	9.7	9.3	Go	1	..	40701b	65	10012	27.8	-43 7	8.3	8.0	B9	6	..	19404b
16	9744	27.5	-40 57	9.5	9.9	Ko	2	..	19404b	66	10019	27.8	-46 4	9.7	9.2	B9	3	..	39069b
17	10017	27.5	-45 29	10.3	9.5	A2	2	..	39069b	67	9770	27.8	-49 47	11.0	9.6	A2	2	..	39069b
18	6803	27.5	-56 37	11.0	11.0	A	1	R	23021b	68	9256	27.8	-51 48	10.1	9.8	Ao	1	..	41517b
19	6802	27.5	-57 5	7.5	8.0	B8	9	..	23021b	69	6624	27.8	-55 20	10.4	10.4	Ao	3	..	23021b
20	5081	27.5	-61 39	8.4	8.6	A2	6	..	19750b	70	4636	27.8	-63 2	8.5	9.3	G5	1	..	19750b
21	2921	27.5	-67 9	8.3	8.3	Ao	7	..	21785b	71	2925	27.8	-67 53	9.1	9.4	F	2	..	14146b
22	2924	27.5	-67 49	8.9	9.9	Ko	2	..	14146b	72	2519	27.8	-68 37	8.6	9.4	G5	3	..	14146b
23	682	27.6	+72 25	9.1	9.2	A5	2	..	38737i	73	2816	27.9	+11 19	7.16	7.72	Go	7	..	37689i
24	1416	27.6	+62 27	6.49	7.67	K5	8	..	38764i	74	4260	27.9	-20 12	8.18	8.8	A2	6	..	21931b
25	2653	27.6	+36 57	6.32	6.74	F5	7	0,9	38498i	75	10898	27.9	-32 50	7.08	7.6	Ao	7	0,4	40701b
26	2781	27.6	+21 18	8.3	8.4	A2	4	..	37720i	76	10468	27.9	-38 47	8.6	9.6	K2	2	..	41391b
27	2797	27.6	+16 24	6.14	6.12	B9	9	0,8 R	37720i	77	9979	27.9	-39 46	10.6	9.9	Ao	3	0,2	19404b
28	3062	27.6	+8 56	8.7	9.2	F8	6	..	37689i	78	10550	27.9	-42 17	10.3	9.9	Fo	2	..	19404b
29	10892	27.6	-33 2	8.9	9.6	Ko	2	..	39299b	79	10549	27.9	-42 27	9.9	10.5	K2	1	..	19404b
30	9975	27.6	-39 24	9.6	10.2	Ko	2	..	14367b	80	10014	27.9	-43 39	9.5	8.9	Ao	4	..	19404b
31	10109	27.6	-48 1	9.2	9.8	K5	1	..	39069b	81	10022	27.9	-45 18	8.4	8.3	A2	5	..	39069b
32	9253	27.6	-51 46	10.3	10.4	B9	1	..	41517b	82	10020	27.9	-45 22	9.3	9.2	A	2	..	39069b
33	6568	27.6	-53 16	8.8	8.7	B9	5	..	41517b	83	10176	27.9	-46 28	8.5	8.6	B9	4	..	39069b
34	6567	27.6	-53 35	9.5	9.6	A3	4	..	23021b	84	10175	27.9	-46 54	8.4	8.4	A2	4	..	39069b
35	7098	27.6	-57 39	8.6	9.5	B8	4	..	23021b	85	10114	27.9	-47 26	9.7	9.2	F8	3	..	39069b
36	6074	27.6	-58 31	8.5	8.0	B8	8	..	23021b	86	10083	27.9	-48 19	9.3	8.9	B9	5	..	39069b
37	5913	27.6	-60 6	9.7	9.8	A2	2	..	23021b	87	8551	27.9	-52 27	9.2	9.2	Ao	2	..	41517b
38	3102	27.6	-65 59	4.11	5.6	Ko	..	R	28,210	88	6809	27.9	-56 15	10.1	10.7	Go	2	..	23021b
39	2798	27.6	-66 13	8.9	8.9	B9	5	..	21785b	89	6810	27.9	-56 34	8.6	9.2	F8	7	..	23021b
40	2799	27.6	-66 57	10.0	10.0	Ao	3	..	21785b	90	7102	27.9	-57 24	8.5	9.5	F8	6	..	23021b
41	2823	27.7	+22 55	7.76	8.76	Ko	7	..	37720i	91	6157	27.9	-59 25	9.7	9.8	A2	3	0,2	23021b
42	2881	27.7	+15 31	7.9	8.0	A5	4	..	37689i	92	5082	27.9	-61 13	9.5	9.5	Ao	2	..	19750b
43	3369	27.7	-0 8	10.5	10.8	Fo	1	..	16850b	93	2520	27.9	-68 10	8.1	8.5	F5	6	..	14146b
44	4047	27.7	-7 44	8.1	8.2	A2	8	..	41222b	94	2896	28.0	+40 1	7.87	8.78	Ko	1	..	38496i
45	4167	27.7	-9 46	8.7	9.7	Ko	5	..	40584b	95	2818	28.0	+11 0	8.7	9.1	F5	2	..	9475b
46	4278	27.7	-12 40	7.62	8.40	G5	7	..	40584b	96	3033	28.0	+5 51	9.1	9.5	F5	4	..	16850b
47	4228	27.7	-14 59	var.	var.	Md	3	R	40295b	97	3964	28.0	-11 23	9.4	10.5	K2	1	..	40584b
48	4140	27.7	-19 54	9.4	10.6	G5	2	..	21931b	98	4279	28.0	-12 27	8.7	9.8	K2	3	..	40584b
49	12336	27.7	-30 41	7.79	8.7	G5	7	..	40714b	99	4192	28.0	-13 10	9.4	10.4	Ko	2	..	40584b
50	10220	27.7	-44 23	10.3	10.1	G5	1	..	19404b	100	12161	28.0	-24 46	7.58	8.4	F8	8	..	40714b



THE HENRY DRAPER CATALOGUE.

138600

15<sup>h</sup> 28<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10971	28.0 <sup>m.</sup> - 25 20	9.2	9.6	Go	3	..	40714b	51	4262	28.3 <sup>m.</sup> - 20 58	8.0	7.8	Ao	8	..	21931b		
2	10279	28.0 - 37 4	8.9	10.2	Ko	3	..	37631b	52	10440	28.3 - 27 47	10.6	10.4	A2	2	..	40714b		
3	10059	28.0 - 41 23	9.0	8.8	Fo	6	..	19404b	53	9988	28.3 - 39 58	9.48	10.2	Ko	1	..	19404b		
4	8552	28.0 - 52 11	9.7	9.8	A2	2	..	41517b	54	9754	28.3 - 40 21	9.6	9.9	Ao	3	..	19404b		
5	6627	28.0 - 56 0	9.8	9.8	A	5	R	23021b	55	10229	28.3 - 44 13	10.6	9.8	Go	1	..	19404b		
6	6812	28.0 - 56 12	10.4	10.4	Ao	3	..	23021b	56	10181	28.3 - 46 47	8.6	8.6	A5	4	..	39069b		
7	4642	28.0 - 62 39	9.4	9.5	A2	2	..	19750b	57	10120	28.3 - 47 54	9.9	8.9	A2	3	..	39069b		
8	1834	28.0 - 72 51	9.0	9.0	B8	4	..	14146b	58	6573	28.3 - 53 16	9.9	9.9	Ao	3	..	41517b		
9	2824	28.1 + 23 21	9.1	10.1	Ko	3	..	3772oi	59	6814	28.3 - 56 11	10.7	10.7	Ao	2	..	23021b		
10	2894	28.1 + 14 13	9.3	9.9	Go	2	..	37689i	60	6815	28.3 - 57 4	10.3	10.4	A2	3	..	23021b		
11	2873	28.1 + 10 28	9.1	9.4	Fo	2	..	37689i	61	4652	28.3 - 62 11	8.6	8.6	B9	5	..	19750b		
12	3914	28.1 - 4 31	8.7	9.1	F5	4	..	41549b	62	4653	28.3 - 62 35	9.7	9.8	A2	2	..	19750b		
13	4229	28.1 - 14 35	8.8	9.8	Ko	3	..	40584b	63	897	28.4 + 67 0	9.0	10.1	K2	1	..	38737i		
14	4138	28.1 - 15 30	10.1	10.9	G5	2	..	40584b	64	1202	28.4 + 63 2	9.2	10.4	K5	1	..	38764i		
15	4092	28.1 - 19 1	9.9	10.0	A2	3	..	21931b	65	1759	28.4 + 54 55	8.76	9.10	F2	2	..	38736i		
16	12340	28.1 - 30 27	9.7	10.5	Ko	1	..	40714b	66	2979	28.4 + 18 55	8.1	9.1	Ko	3	..	3772oi		
17	10902	28.1 - 32 37	8.7	9.6	Ko	1	..	40701b	67	2895	28.4 + 14 38	9.8	10.4	G	2	..	37689i		
18	10347	28.1 - 37 30	8.9	10.4	K2	2	..	37631b	68	3034	28.4 + 5 15	10.1	10.6	F8	1	..	16850b		
19	9753	28.1 - 40 7	9.8	9.9	F8	2	..	19404b	69	3370	28.4 + 0 11	10.5	11.5	Ko	1	..	16850b		
20	10062	28.1 - 41 12	10.2	10.2	Ko	1	..	19404b	70	4014	28.4 - 2 58	8.0	9.1	K2	4	..	41549b		
21	10015	28.1 - 43 29	8.5	8.3	Ao	5	..	19404b	71	4231	28.4 - 14 47	10.6	10.7	A2	1	..	40584b		
22	9774	28.1 - 49 20	6.9	7.9	B5	8	..	39069b	72	3977	28.4 - 22 39	9.4	9.1	A2	3	..	21931b		
23	6583	28.1 - 54 23	9.0	9.0	Ao	7	..	23021b	73	12384	28.4 - 23 53	9.4	9.4	G5	4	..	21931b		
24	6628	28.1 - 55 22	10.3	10.8	F8	1	..	23021b	74	10441	28.4 - 27 22	10.4	10.1	F8	2	..	40714b		
25	6813	28.1 - 56 20	10.4	10.4	Ao	2	..	23021b	75	10018	28.4 - 43 30	8.0	7.8	A5	7	..	19404b		
26	5084	28.1 - 61 21	8.9	9.0	A5	4	..	19750b	76	10123	28.4 - 47 30	9.5	8.9	Ko	3	..	39069b		
27	4647	28.1 - 62 10	9.0	9.3	Fo	1	..	19750b	77	6574	28.4 - 53 17	9.5	9.5	Ao	4	..	41517b		
28	4648	28.1 - 62 56	8.9	8.9	B9	3	..	19750b	78	6631	28.4 - 55 31	9.0	8.9	B8	7	..	23021b		
29	2611	28.2 + 41 14	4.98	5.04	A2	..	0,10	56,92	79	5926	28.4 - 60 13	8.6	8.9	B3	3	..	19750b		
30	2783	28.2 + 21 24	8.7	9.8	K2	1	..	3772oi	80	3219	28.4 - 64 13	8.1	8.1	Ao	6	1,7	21785b		
31	3027	28.2 + 4 16	9.8	10.8	Ko	1	..	16850b	81	2412	28.4 - 69 12	8.4	9.4	Ko	3	..	14146b		
32	4232	28.2 - 6 11	9.4	9.9	F8	1	..	41222b	82	1898	28.4 - 71 58	7.7	7.7	Ao	6	..	35947b		
33	4122	28.2 - 10 44	8.7	9.0	Fo	5	..	40584b	83	1444	28.4 - 74 6	9.1	9.1	Ao	6	..	14146b		
34	9985	28.2 - 39 53	8.28	9.1	Ko	3	2,3	41391b	84	900	28.5 + 67 33	9.4	10.2	G5	3	..	38737i		
35	10556	28.2 - 42 14	10.3	10.2	G	1	..	19404b	85	2799	28.5 + 16 22	6.67	7.74	K2	5	0,5	3772oi		
36	10228	28.2 - 44 9	9.5	9.0	F8	5	..	19404b	86	4193	28.5 - 13 53	7.13	7.63	F8	8	..	40584b		
37	10119	28.2 - 48 1	9.5	8.7	A5	3	..	39069b	87	4232	28.5 - 14 31	8.5	9.6	K2	4	..	40584b		
38	9263	28.2 - 51 15	9.1	9.2	Ko	3	..	41517b	88	10443	28.5 - 27 42	5.19	6.5	Ko	..	..	28,210		
39	6584	28.2 - 54 50	9.0	9.9	Ko	4	..	23021b	89	9758	28.5 - 40 22	8.9	10.2	G5	2	..	19404b		
40	6082	28.2 - 58 28	9.2	9.6	F8	3	..	23021b	90	9760	28.5 - 40 50	2.95	2.78	B3	..	R	28,210		
41	3118	28.3 + 20 4	8.05	8.47	F5	5	..	3772oi	91	10231	28.5 - 44 40	9.1	9.5	Ko	3	..	19404b		
42	2977	28.3 + 7 3	9.1	10.2	K2	1	E	16850b	92	9600	28.5 - 50 53	10.3	9.5	A2	2	..	39069b		
43	3061	28.3 + 5 52	9.8	10.1	F2	2	..	16850b	93	9269	28.5 - 51 33	8.9	10.1	K5	1	..	41517b		
44	3048	28.3 + 3 40	7.6	8.6	Ko	8	..	16850b	94	6816	28.5 - 56 41	7.7	7.7	B9	9	..	23021b		
45	4234	28.3 - 6 51	9.2	10.0	G5	3	..	41222b	95	5928	28.5 - 60 31	8.9	9.3	Ko	3	..	19750b		
46	4007	28.3 - 9 5	8.1	9.2	K2	3	..	41222b	96	4658	28.5 - 62 42	8.5	8.9	F5	3	..	19750b		
47	4139	28.3 - 15 20	10.1	11.2	K2	1	..	40584b	97	2800	28.5 - 66 45	9.2	10.0	G5	2	..	21785b		
48	4112	28.3 - 16 39	8.3	9.1	G5	5	..	40295b	98	2413	28.5 - 69 44	9.1	9.1	Ao	4	..	14146b		
49	4113	28.3 - 17 7	8.5	9.5	Ko	4	..	40295b	99	1838	28.5 - 72 32	8.6	9.7	K2	2	..	14146b		
50	4145	28.3 - 19 14	9.7	9.1	F8	2	..	21931b	100	2075	28.6 + 45 59	9.2	10.0	G5	2	..	38741i		



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

138700

15<sup>h</sup> 28<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2960	28.6	+13 24	7.9	8.7	G5	2	..	37689i	51	3967	28.9	-11 51	9.9	10.9	Ko	1	..	40584b
2	2852	28.6	+12 0	9.0	9.4	F5	3	..	37689i	52	..	28.9	-15 27	..	..	K2	1	..	40584b
3	4196	28.6	-13 23	10.3	11.1	G5	1	..	40584b	53	10944	28.9	-26 49	8.1	8.9	Ao	7	..	40714b
4	4140	28.6	-15 52	8.8	9.8	Ko	4	..	40295b	54	9612	28.9	-50 19	9.5	9.0	B5	3	..	39069b
5	10563	28.6	-42 29	8.6	8.7	Ao	6	..	19404b	55	8581	28.9	-52 21	9.5	9.5	Ao	2	..	41517b
6	9783	28.6	-49 57	8.98	9.6	Mb	1	..	39069b	56	6578	28.9	-53 9	8.7	9.3	A2	4	..	41517b
7	8573	28.6	-52 23	9.1	9.2	A2	3	..	41517b	57	3106	28.9	-65 55	9.3	10.1	G5	3	..	21785b
8	8565	28.6	-52 56	8.4	8.6	Ko	4	..	41517b	58	1451	28.9	-74 7	8.4	8.4	B9	10	..	14146b
9	2802	28.6	-66 45	10.0	10.1	A5	2	R	21785b	59	2820	29.0	+11 46	8.1	9.3	K5	1	..	9475b
10	856	28.6	-80 1	9.6	9.9	Fo	1	..	40252b	60	3031	29.0	+4 16	10.5	11.1	Go	1	..	16850b
11	2673	28.7	+30 50	8.6	9.4	G5	1	..	38422i	61	3797	29.0	-4 1	8.5	9.6	K2	2	..	41549b
12	2855	28.7	+12 27	8.6	9.6	Ko	2	..	9475b	62	3920	29.0	-4 24	8.8	9.3	F8	2	..	41549b
13	2854	28.7	+12 6	8.6	9.4	G5	2	..	37689i	63	4100	29.0	-5 21	6.46	7.02	Go	9	..	41549b
14	3028	28.7	+4 34	9.5	9.9	F5	2	..	16850b	64	4010	29.0	-8 51	5.15	5.03	B5	..	4.9	2761c
15	3029	28.7	+4 21	9.5	10.6	K2	2	..	16850b	65	4094	29.0	-18 24	11.0	12.4	Ma	..	..	M
16	4171	28.7	-9 43	4.83	5.83	Ko	..	0.8	2761c	66	10286	29.0	-36 49	9.6	9.3	Ao	3	..	41391b
17	4234	28.7	-15 8	9.9	10.0	A5	2	..	40584b	67	10569	29.0	-42 22	11.0	9.9	A3	2	..	19404b
18	4141	28.7	-16 2	9.4	10.4	Ko	3	..	40295b	68	10238	29.0	-44 20	10.1	9.8	Ko	1	..	19404b
19	4368	28.7	-17 21	8.9	8.9	Ao	6	..	40295b	69	10239	29.0	-44 37	4.84	4.67	B3	..	R	28,210
20	4367	28.7	-17 30	10.1	10.7	Go	1	..	40295b	70	10132	29.0	-47 19	11.0	9.8	Ao	1	..	39069b
21	4145	28.7	-21 35	8.5	8.8	Ao	6	..	21931b	71	7106	29.0	-57 17	9.0	9.6	B8	6	..	23021b
22	10445	28.7	-27 48	9.1	9.5	G5	3	..	40714b	72	6095	29.0	-59 0	9.1	10.1	Ko	2	..	23021b
23	10481	28.7	-38 13	9.8	10.2	Ao	2	..	41391b	73	4665	29.0	-62 21	7.6	7.6	Ao	8	..	19750b
24	10186	28.7	-46 53	10.6	9.3	Ao	2	..	39069b	74	2522	29.0	-68 51	9.1	9.2	A2	3	..	14146b
25	9785	28.7	-49 37	9.3	9.8	K5	2	..	39069b	75	2102	29.0	-70 41	8.9	9.4	F8	3	..	14146b
26	9607	28.7	-50 34	10.3	9.6	A2	2	..	39069b	76	4015	29.1	-2 23	8.1	9.1	Ko	4	..	41549b
27	9610	28.7	-50 43	9.3	9.8	A5	1	..	39069b	77	4237	29.1	-6 33	9.2	9.3	A3	2	..	41222b
28	7104	28.7	-57 33	9.1	10.3	F5	3	..	23021b	78	12390	29.1	-23 49	8.5	8.9	K5	5	..	21931b
29	6089	28.7	-58 14	8.5	8.9	B3	5	..	23021b	79	11427	29.1	-28 8	7.9	8.9	F8	6	..	40714b
30	3221	28.7	-64 51	8.6	8.9	F2	5	..	21785b	80	12071	29.1	-32 5	9.9	9.9	Ko	2	E	39299b
31	2803	28.7	-66 12	10.0	10.0	Ao	4	..	21785b	81	10076	29.1	-41 31	9.6	10.0	Ko	1	..	19404b
32	2414	28.7	-69 18	9.0	9.5	F8	2	..	14146b	82	10078	29.1	-41 46	8.9	9.3	Ko	3	..	19404b
33	733	28.8	+71 1	8.6	9.6	Ko	3	..	38737i	83	10572	29.1	-42 14	9.5	9.6	G5	4	..	19404b
34	2675	28.8	+30 38	8.1	9.1	Ko	2	..	38422i	84	10098	29.1	-48 9	10.1	9.8	A	1	..	39069b
35	2975	28.8	+2 49	9.8	10.3	F8	3	..	16850b	85	10099	29.1	-48 23	7.9	8.9	K5	3	..	39069b
36	3371	28.8	+0 22	10.5	10.9	F5	2	..	16850b	86	9280	29.1	-51 36	10.1	9.5	Ao	2	..	41517b
37	3919	28.8	-4 51	9.4	9.4	Ao	1	..	41549b	87	1841	29.1	-72 31	9.3	10.3	Ko	1	..	14146b
38	4093	28.8	-18 43	8.7	9.5	G5	3	..	21931b	88	3119	29.2	+20 20	8.9	10.0	K2	i	..	37720i
39	3979	28.8	-22 26	9.7	10.6	Ko	1	..	21931b	89	3969	29.2	-11 31	8.8	9.9	K2	1	..	40584b
40	10447	28.8	-27 9	9.5	9.5	F5	4	..	40714b	90	12179	29.2	-24 46	7.9	8.6	F2	6	..	40714b
41	10073	28.8	-41 10	7.6	8.2	F5	7	..	19404b	91	11429	29.2	-28 43	7.58	8.0	Ao	7	..	40714b
42	10189	28.8	-47 3	7.7	8.3	K5	3	..	39069b	92	12073	29.2	-31 33	8.9	10.0	K2	2	E	39299b
43	9787	28.8	-49 10	var.	var.	Mb	2	R	39069b	93	10358	29.2	-37 8	8.9	9.0	G5	3	..	41391b
44	6632	28.8	-55 27	10.1	10.1	B9	4	..	23021b	94	9768	29.2	-40 17	9.8	10.0	B9	3	..	19404b
45	7105	28.8	-57 44	10.0	10.4	F5	3	..	23021b	95	10133	29.2	-47 49	10.1	9.3	Ao	3	..	39069b
46	6093	28.8	-58 21	9.1	9.5	F8	4	..	23021b	96	9792	29.2	-49 21	9.3	9.8	K5	1	..	39069b
47	5096	28.8	-61 40	9.0	8.9	F8	4	..	19750b	97	6595	29.2	-55 3	10.3	10.4	A3	3	..	23021b
48	1788	28.9	+53 41	8.8	9.6	G5	2	..	38736i	98	7107	29.2	-57 15	9.6	10.4	G5	2	..	23021b
49	2750	28.9	+31 42	4.17	4.05	B5	..	R	56,92	99	2523	29.2	-68 52	8.7	9.2	F8	3	..	14146b
50	3066	28.9	+9 42	7.82	8.32	F8	5	..	37689i	100	1625	29.2	-73 7	5.76	5.8	B8	..	R	28,210

THE HENRY DRAPER CATALOGUE.

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15<sup>h</sup> 29<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	511	29.2	-84 21	8.7	9.7	Ko	3	..	43458b	51	1031	29.5	-78 23	8.7	9.1	F5	3	..	40252b
2	2242	29.3	+47 38	9.1	9.6	F8	2	..	38741i	52	1074	29.6	+64 33	5.88	6.66	G5	9	0,9	38764i
3	2880	29.3	+17 29	6.45	6.73	Fo	9	..	3772oi	53	2675	29.6	+38 47	8.3	9.1	G5	1	..	38498i
4	3036	29.3	+5 6	9.8	10.9	K2	1	..	1685ob	54	2682	29.6	+29 38	8.7	9.5	G5	2	..	38734i
5	3050	29.3	+3 5	9.3	10.3	Ko	4	..	1685ob	55	4055	29.6	-7 47	8.3	9.1	G5	5	..	41222b
6	3373	29.3	+0 15	9.1	9.6	F8	3	..	1685ob	56	4097	29.6	-18 23	9.1	10.2	K2	3	..	21931b
7	2984	29.3	-1 6	8.9	10.0	K2	2	..	1685ob	57	4096	29.6	-18 34	9.4	10.5	K2	2	..	21931b
8	4016	29.3	-2 36	7.9	8.4	F8	6	..	41549b	58	4151	29.6	-19 12	9.9	10.0	Go	2	..	21931b
9	4054	29.3	-7 47	8.1	8.2	A3	7	..	41222b	59	10578	29.6	-42 57	9.9	9.9	Ao	3	..	19404b
10	4114	29.3	-16 48	7.04	8.04	Ko	8	..	40295b	60	10040	29.6	-43 40	7.51	7.1	B9	10	..	19404b
11	4148	29.3	-19 42	10.1	10.3	Go	2	..	21931b	61	10248	29.6	-44 58	9.52	9.2	Ao	3	..	39069b
12	4147	29.3	-21 48	9.9	9.4	F5	2	..	21931b	62	6599	29.6	-54 10	9.0	8.9	Go	3	..	23021b
13	10982	29.3	-25 24	7.26	7.5	Ao	10	..	40714b	63	7108	29.6	-57 30	10.3	10.4	A5	2	..	23021b
14	10009	29.3	-39 8	9.5	10.4	G5	2	..	14367b	64	6106	29.6	-58 11	9.7	9.8	A2	2	..	23021b
15	10034	29.3	-43 32	11.0	10.1	A2	2	..	19404b	65	2417	29.6	-69 9	9.4	9.4	Ao	3	..	14146b
16	10036	29.3	-44 4	5.47	6.9	K5	..	..	28,210	66	1900	29.6	-71 23	9.5	10.0	F8	2	..	14146b
17	6637	29.3	-55 52	10.7	10.8	A3	1	..	23021b	67	1222	29.6	-75 45	6.02	5.8	Ao	9	..	35947b
18	345	29.4	+84 13	8.6	8.9	Fo	7	..	37813i	68	1615	29.7	+60 3	8.01	8.51	F8	5	..	38764i
19	2241	29.4	+46 54	9.4	9.8	F5	2	..	38741i	69	3039	29.7	+5 43	8.9	10.0	K2	1	..	1685ob
20	2828	29.4	+23 46	7.8	8.8	Ko	6	..	3772oi	70	3375	29.7	+0 12	7.68	8.68	Ko	7	..	1685ob
21	4266	29.4	-20 40	8.6	8.5	Ao	5	..	21931b	71	12183	29.7	-24 49	8.9	9.2	A3	4	..	40714b
22	10946	29.4	-26 9	9.7	11.3	K5	1	..	40714b	72	10985	29.7	-25 58	8.9	8.9	B9	6	..	40714b
23	10492	29.4	-38 36	9.6	10.2	Ao	2	..	41391b	73	10454	29.7	-27 52	8.7	9.8	Ko	2	..	40714b
24	10243	29.4	-44 26	9.5	10.4	K5	1	..	19404b	74	11797	29.7	-29 14	8.5	9.3	Go	3	..	40714b
25	10136	29.4	-47 56	10.1	9.5	A2	1	..	39069b	75	10497	29.7	-38 31	7.8	8.8	F8	5	..	41391b
26	6586	29.4	-53 23	7.7	8.1	A5	5	..	41517b	76	10089	29.7	-41 41	9.6	10.0	K2	1	..	19404b
27	6819	29.4	-56 22	10.1	10.1	Ao	4	..	23021b	77	10580	29.7	-42 15	10.6	9.9	Ao	1	..	19404b
28	6820	29.4	-56 27	10.3	10.4	A2	3	..	23021b	78	6601	29.7	-54 8	8.4	8.1	B8	7	..	23021b
29	4676	29.4	-62 41	9.2	9.2	B9	3	..	1975ob	79	6107	29.7	-58 11	8.8	9.8	Ko	2	..	23021b
30	2416	29.4	-69 44	8.9	9.7	G5	1	..	14146b	80	1843	29.7	-72 27	8.1	8.9	G5	5	..	14146b
31	2078	29.5	+46 6	9.4	10.2	G5	3	..	38741i	81	1627	29.7	-73 19	9.7	9.7	Ao	3	..	14146b
32	2978	29.5	+6 56	9.5	10.1	Go	1	E	1685ob	82	777	29.7	-80 34	8.8	9.2	F5	1	..	13442b
33	3037	29.5	+5 4	7.02	7.08	A2	4	0,10	38432i	83	2618	29.8	+42 16	9.0	9.8	G5	1	..	38718i
34	3051	29.5	+3 27	9.8	10.4	Go	2	..	1685ob	84	2617	29.8	+42 10	8.3	9.1	G5	5	..	38718i
35	3374	29.5	+0 23	9.3	9.7	F5	2	..	1685ob	85	4018	29.8	-2 59	8.6	9.6	Ko	4	..	41549b
36	4013	29.5	-9 1	9.7	10.8	K2	1	..	41222b	86	4286	29.8	-12 10	7.7	8.2	F8	7	..	40584b
37	4173	29.5	-9 27	8.9	8.9	Ao	5	..	41222b	87	4116	29.8	-17 4	8.77	9.55	G5	3	..	40295b
38	4125	29.5	-10 11	9.16	9.16	Ao	4	..	40584b	88	4372	29.8	-17 14	9.1	9.9	G5	2	..	40295b
39	4284	29.5	-12 30	9.7	9.8	A2	2	..	40584b	89	3981	29.8	-23 2	9.2	10.1	Ko	2	..	21931b
40	4283	29.5	-12 41	10.1	10.6	F8	2	..	40584b	90	10364	29.8	-37 23	11.1	10.9	Ko	1	..	37631b
41	4200	29.5	-13 20	8.9	9.7	G5	3	..	40584b	91	10091	29.8	-41 54	9.6	10.5	K5	1	..	19404b
42	10493	29.5	-38 59	9.2	9.6	Ao	5	0,3	14367b	92	10581	29.8	-42 32	9.7	9.9	G5	1	..	19404b
43	10039	29.5	-43 17	8.5	8.2	Ao	7	..	19404b	93	10140	29.8	-47 14	9.1	8.3	Ao	5	..	39069b
44	10107	29.5	-48 29	9.9	9.5	F8	2	..	39069b	94	8601	29.8	-52 25	8.5	8.6	F2	5	..	41517b
45	9798	29.5	-49 12	9.3	8.9	B9	3	..	39069b	95	6592	29.8	-54 2	8.1	8.6	G5	7	..	23021b
46	9800	29.5	-49 50	9.1	8.6	Go	5	..	39069b	96	6603	29.8	-55 1	9.59	9.8	A3	5	..	23021b
47	6638	29.5	-55 59	9.9	10.7	G5	2	..	23021b	97	7109	29.8	-57 37	9.8	10.8	Ko	1	..	23021b
48	6105	29.5	-58 27	8.2	8.3	Fo	8	..	23021b	98	6110	29.8	-59 4	8.8	9.0	F2	7	..	23021b
49	6173	29.5	-59 51	9.1	10.1	Ko	1	..	37619b	99	1456	29.8	-74 55	9.6	9.6	Ao	4	..	14146b
50	4678	29.5	-62 36	9.0	9.8	G5	1	..	1975ob	100	836	29.9	+70 43	9.4	10.6	K5	1	..	38737i

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

138900

15<sup>h</sup> 29<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2966	29.9	+13 21	8.5	9.1	G	2	..	3768gi	51	799	30.2	+69 30	8.9	9.0	A2	2	..	37752i
2	..	29.9	+4 12	..	..	Go	1	..	1685ob	52	2980	30.2	+7 20	9.1	9.7	Go	2	2,2	13817b
3	3973	29.9	-11 21	9.4	9.7	F2	2	..	40584b	53	3099	30.2	+1 5	10.5	11.3	G5	1	..	1685ob
4	4287	29.9	-12 59	9.4	9.9	F8	3	..	40584b	54	4108	30.2	-5 48	10.1	10.5	F5	1	..	41222b
5	4237	29.9	-14 27	4.02	5.02	Ko	..	R	132oc	55	3975	30.2	-12 2	9.4	9.5	A3	2	..	40584b
6	12399	29.9	-23 58	9.4	9.1	F5	3	..	21931b	56	9789	30.2	-40 21	8.2	9.6	Ma	2	..	19404b
7	10249	29.9	-44 23	9.9	9.3	F5	3	..	19404b	57	10100	30.2	-41 18	9.6	9.3	Fo	4	..	19404b
8	10052	29.9	-45 49	7.7	8.2	Fo	6	..	39069b	58	10099	30.2	-41 51	10.0	10.2	F8	1	..	19404b
9	6593	29.9	-53 9	8.1	8.1	Ao	5	..	41517b	59	10144	30.2	-47 47	10.1	9.7	A2	2	..	39069b
10	6182	29.9	-59 33	8.0	8.0	B3	5	..	1975ob	60	9815	30.2	-49 7	9.1	8.9	Ao	4	..	39069b
11	6183	29.9	-59 42	9.8	9.8	Ao	2	..	37619b	61	9306	30.2	-52 4	9.9	9.5	F8	1	..	41517b
12	3628	29.9	-63 19	8.3	8.3	B9	6	..	1975ob	62	5952	30.2	-60 47	9.8	9.8	Ao	2	..	37619b
13	2805	29.9	-66 46	10.6	10.7	A2	1	..	21785b	63	2806	30.2	-66 11	8.6	8.6	Ao	7	..	21785b
14	1901	29.9	-71 14	9.2	10.0	G5	2	..	14146b	64	2525	30.2	-68 47	8.8	9.4	Go	3	..	14146b
15	516	30.0	+78 32	9.6	9.7	A2	2	..	3780gi	65	2422	30.2	-69 54	6.46	6.8	A2	10	..	14146b
16	901	30.0	+67 1	8.1	8.4	Fo	4	..	38737i	66	2103	30.2	-70 11	9.1	9.5	F5	2	..	14146b
17	2821	30.0	+10 53	5.16	5.44	Fo	..	R	56,92	67	3040	30.3	+5 8	10.5	11.1	Go	1	..	1685ob
18	..	30.0	+10 53	4.23	4.51	..	..	..	..	68	3376	30.3	+0 39	9.3	9.9	Go	3	..	1685ob
19	2979	30.0	+7 8	8.1	8.9	G5	3	..	3768gi	69	4290	30.3	-12 31	8.8	9.3	F8	5	..	40584b
20	3098	30.0	+1 4	10.5	11.9	Ma	1	..	1685ob	70	4143	30.3	-15 38	8.7	9.7	Ko	4	..	40295b
21	4104	30.0	-5 36	9.4	9.5	A2	2	..	41549b	71	4103	30.3	-18 39	9.9	10.5	Go	2	..	21931b
22	10456	30.0	-27 36	10.4	10.2	Ao	2	..	40714b	72	4102	30.3	-18 47	9.4	10.4	Ko	2	..	21931b
23	10930	30.0	-32 45	6.29	6.7	B9	6	1,10	4398ob	73	4148	30.3	-21 25	7.74	8.9	G5	6	..	21931b
24	10294	30.0	-37 3	8.0	8.2	F8	6	..	41391b	74	10457	30.3	-28 5	9.5	10.2	Go	2	..	40714b
25	9784	30.0	-40 14	10.6	10.0	Ao	3	..	19404b	75	10049	30.3	-44 2	7.8	7.6	A2	9	..	19404b
26	10096	30.0	-41 47	9.6	9.3	G5	4	..	19404b	76	10125	30.3	-48 58	10.1	9.5	F5	2	..	39069b
27	10048	30.0	-43 33	9.9	9.9	A2	3	..	19404b	77	8618	30.3	-52 9	9.8	9.8	B9	1	..	41517b
28	10116	30.0	-48 53	10.1	9.2	A2	2	..	39069b	78	6116	30.3	-58 24	9.6	9.6	B8	3	..	23021b
29	9632	30.0	-50 24	9.2	9.2	A2	3	..	39069b	79	5118	30.3	-61 30	8.2	9.3	K5	3	..	1975ob
30	2927	30.0	-67 56	8.1	9.1	Ko	4	..	14146b	80	1902	30.3	-72 1	9.0	10.0	Ko	3	..	14146b
31	2420	30.0	-70 2	9.4	9.5	A2	2	..	14146b	81	2191	30.4	+50 30	8.3	8.9	Go	3	..	38736i
32	2506	30.1	+43 19	8.4	8.8	F5	3	..	38718i	82	2601	30.4	+32 21	9.1	10.1	Ko	1	0,3	38422i
33	2619	30.1	+42 5	8.9	9.7	G5	1	..	38718i	83	3121	30.4	+20 7	8.3	9.4	K2	2	..	3772oi
34	2830	30.1	+23 33	7.7	8.8	K2	4	..	3772oi	84	2823	30.4	+11 17	9.5	10.5	K	1	..	3768gi
35	3040	30.1	+18 34	7.9	9.1	K5	2	..	3772oi	85	2879	30.4	+10 31	9.1	9.9	G5	2	..	9475b
36	2977	30.1	+2 0	6.58	6.66	A3	5	0,10	38432i	86	3065	30.4	+6 5	10.1	11.1	Ko	1	..	1685ob
37	3974	30.1	-11 10	10.1	10.9	G5	1	..	40584b	87	3041	30.4	+5 21	9.5	10.5	Ko	1	..	1685ob
38	11434	30.1	-28 40	7.02	8.7	K5	6	..	40714b	88	3035	30.4	+3 57	9.8	11.0	K5	2	..	1685ob
39	12372	30.1	-30 15	9.74	9.9	Ko	2	..	40714b	89	3800	30.4	-3 9	8.7	9.8	K2	1	..	41549b
40	9787	30.1	-40 44	7.6	7.4	Ao	10	..	19404b	90	4018	30.4	-8 38	8.9	9.9	Ko	2	..	41222b
41	10585	30.1	-42 8	10.1	10.2	Go	1	..	19404b	91	4126	30.4	-11 1	9.9	11.1	K5	1	..	40584b
42	10253	30.1	-44 13	9.9	9.0	Ao	4	..	19404b	92	4153	30.4	-20 6	9.03	9.5	F2	3	..	21931b
43	10209	30.1	-46 21	9.9	9.6	Go	2	..	39069b	93	11437	30.4	-28 13	9.7	9.8	F8	3	..	40714b
44	9633	30.1	-50 25	9.2	9.2	B8	3	..	39069b	94	10371	30.4	-37 50	7.8	7.7	F2	6	..	41391b
45	9301	30.1	-51 17	9.1	10.1	K5	1	..	39069b	95	10024	30.4	-39 49	8.9	10.0	Go	2	..	41391b
46	9300	30.1	-51 52	10.3	9.5	Ao	2	..	41517b	96	9792	30.4	-40 19	7.72	8.5	Ko	4	..	19404b
47	6642	30.1	-55 11	9.9	11.1	K5	1	..	23021b	97	10104	30.4	-41 30	8.7	8.8	A3	6	..	19404b
48	3115	30.1	-65 55	10.1	10.1	Ao	2	..	21785b	98	10147	30.4	-47 5	9.1	8.7	B9	6	..	39069b
49	2421	30.1	-69 43	9.3	9.9	Go	2	..	14146b	99	9817	30.4	-49 40	9.5	9.5	K2	2	..	39069b
50	734	30.2	+71 38	9.4	9.9	F8	2	..	38737i	100	6607	30.4	-54 11	7.4	7.5	A2	10	..	23021b

## THE HENRY DRAPER CATALOGUE.

139000

15<sup>h</sup> 30<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6829	30.4	-56 6	10.2	10.8	Go	2	..	23021b	51	6610	30.8	-54 53	8.7	8.6	A5	7	..	23021b
2	6827	30.4	-56 57	8.3	9.8	K5	3	..	23021b	52	2104	30.8	-70 55	9.4	9.5	A2	3	..	14146b
3	4692	30.4	-62 43	8.7	8.7	A0	4	..	19750b	53	1904	30.8	-71 6	8.4	9.2	G5	4	..	14146b
4	1903	30.4	-71 25	7.6	7.6	B9	9	..	14146b	54	512	30.8	-84 7	9.3	10.5	K5	1	..	43458b
5	1037	30.4	-78 24	9.4	9.4	A0	1	..	40252b	55	2881	30.9	+10 21	10.1	10.1	A0	2	..	9475b
6	2512	30.5	+27 3	2.31	2.31	A0	..	R	1968c	56	3378	30.9	+0 36	9.1	9.6	F8	2	..	16850b
7	2932	30.5	+25 20	8.5	9.3	G5	3	..	38470i	57	3377	30.9	+0 23	7.9	8.3	F5	8	..	16850b
8	3053	30.5	+3 39	9.8	10.8	K0	1	..	16850b	58	4020	30.9	-2 27	9.1	9.9	G5	3	..	41549b
9	3100	30.5	+1 47	8.7	9.1	F5	4	..	16850b	59	4112	30.9	-6 3	7.9	8.7	G5	5	..	41549b
10	10938	30.5	-32 19	8.4	8.4	A0	5	..	40701b	60	4058	30.9	-7 23	9.4	10.0	Go	3	..	41222b
11	10301	30.5	-36 54	9.2	9.0	F8	3	..	41391b	61	4120	30.9	-16 41	7.66	8.08	F5	8	..	40295b
12	10105	30.5	-41 7	9.6	9.1	A5	4	..	19404b	62	4157	30.9	-19 29	10.1	10.6	Go	2	..	21931b
13	3631	30.5	-63 22	8.8	8.9	A5	5	..	19750b	63	10464	30.9	-27 48	3.78	4.85	K2	..	R	28,210
14	3630	30.5	-63 53	9.7	9.8	A2	2	..	19750b	64	10592	30.9	-42 29	9.7	10.2	G5	1	..	19404b
15	3229	30.5	-64 47	9.7	9.8	A2	2	..	21785b	65	10156	30.9	-47 40	9.7	10.2	A0	1	..	39069b
16	2824	30.6	+11 22	10.5	11.1	G	1	R	37689i	66	9315	30.9	-51 59	9.9	9.2	A0	3	..	41517b
17	3071	30.6	+9 29	8.5	9.3	G5	3	..	37689i	67	9314	30.9	-52 0	9.7	10.4	Ma	..	M	
18	3066	30.6	+6 24	8.5	9.3	G5	6	0,3	16850b	68	8640	30.9	-52 58	7.4	7.6	B9	7	..	41517b
19	2980	30.6	+2 28	10.5	11.5	K0	1	..	16850b	69	6612	30.9	-54 54	9.9	10.4	F8	2	..	23021b
20	11439	30.6	-28 31	9.1	9.0	A3	5	..	40714b	70	7120	30.9	-57 53	8.4	9.8	K0	5	..	23021b
21	10027	30.6	-40 5	9.48	10.5	K2	1	..	41391b	71	4708	30.9	-62 43	8.1	8.1	A0	6	..	19750b
22	9794	30.6	-40 41	10.6	8.5	K0	7	..	19404b	72	3116	30.9	-65 20	8.3	8.3	B9	7	..	21785b
23	10590	30.6	-43 0	9.7	9.7	G5	3	..	19404b	73	2857	31.0	+22 50	8.1	9.1	K0	5	..	37720i
24	10062	30.6	-45 33	9.7	9.9	F0	2	..	39069b	74	3044	31.0	+18 0	6.06	7.06	K0	8	R	37720i
25	10216	30.6	-46 34	9.5	9.9	K2	1	..	39069b	75	3102	31.0	+1 20	9.8	11.0	K5	1	..	16850b
26	7114	30.6	-57 30	10.2	10.7	F8	2	..	23021b	76	4021	31.0	-2 11	8.5	9.6	K2	4	..	41549b
27	6120	30.6	-58 27	8.3	9.8	K5	4	..	23021b	77	4059	31.0	-7 34	8.7	9.9	K5	2	..	41222b
28	1845	30.6	-72 36	8.5	9.7	K5	4	..	14146b	78	3977	31.0	-11 40	9.4	10.2	G5	2	..	40584b
29	859	30.6	-79 24	8.1	9.2	K2	2	..	40252b	79	4105	31.0	-18 51	9.4	10.2	G5	1	..	21931b
30	1515	30.7	+60 53	9.1	10.1	K0	1	..	38764i	80	10304	31.0	-36 42	7.92	8.4	F0	5	..	41391b
31	3054	30.7	+3 1	9.8	9.8	A0	5	..	16850b	81	10518	31.0	-38 45	7.45	8.2	K0	6	..	41391b
32	..	30.7	+1 29	..	..	G5	3	..	16850b	82	10038	31.0	-39 56	9.72	10.2	K0	1	..	41391b
33	4056	30.7	-7 18	7.7	8.7	K0	7	..	41222b	83	10061	31.0	-43 19	9.7	10.5	F	1	..	19404b
34	12408	30.7	-23 39	8.3	8.2	F2	6	..	21931b	84	7121	31.0	-57 22	7.4	8.7	G5	8	..	23021b
35	10942	30.7	-32 29	8.7	8.2	A0	4	..	40701b	85	1848	31.0	-72 7	9.1	9.2	A2	4	..	14146b
36	10511	30.7	-38 7	10.6	10.5	A0	2	..	37631b	86	2969	31.1	+13 16	7.67	8.17	F8	6	..	37689i
37	10066	30.7	-45 22	8.3	9.3	K0	3	..	39069b	87	2826	31.1	+11 35	6.11	6.89	G5	8	..	37689i
38	6603	30.7	-53 47	9.9	9.9	A0	4	..	23021b	88	3069	31.1	+6 31	7.34	7.40	A2	8	..	16850b
39	6649	30.7	-55 30	8.9	9.5	K0	4	..	23021b	89	4114	31.1	-5 31	8.1	8.6	F8	5	..	41188b
40	6833	30.7	-56 20	10.7	10.7	B8	2	..	23021b	90	4208	31.1	-13 23	8.6	9.4	G5	3	..	40584b
41	2528	30.7	-68 40	8.4	9.4	K0	3	..	14146b	91	4377	31.1	-17 51	10.3	11.3	K0	1	..	40295b
42	779	30.7	-80 13	8.6	9.4	G5	2	..	40252b	92	12414	31.1	-23 59	9.7	9.7	G5	3	..	40714b
43	1790	30.8	+53 25	8.6	9.8	K5	2	..	38736i	93	10996	31.1	-25 32	9.2	9.8	K2	2	..	40714b
44	3101	30.8	+1 34	6.71	6.99	F0	5	0,10	38432i	94	10958	31.1	-26 10	7.24	7.8	B9	9	..	40714b
45	4375	30.8	-17 21	10.3	11.1	G5	1	..	40295b	95	12108	31.1	-31 44	7.87	8.0	F0	6	..	40701b
46	3986	30.8	-22 37	10.1	10.5	F8	2	..	21931b	96	10305	31.1	-36 16	8.9	9.9	G5	1	..	41391b
47	12409	30.8	-23 43	9.1	8.9	F5	4	..	21931b	97	6651	31.1	-55 52	10.7	10.7	A0	2	..	23021b
48	10514	30.8	-38 29	8.6	9.3	A3	4	..	41391b	98	6835	31.1	-56 59	10.0	10.1	A2	4	..	23021b
49	10059	30.8	-43 46	10.3	10.5	G5	1	..	19404b	99	3232	31.1	-64 28	9.7	10.9	K5	1	..	21785b
50	10069	30.8	-45 45	9.9	10.5	A0	3	R	19404b	100	2808	31.1	-66 13	9.2	9.8	Go	4	..	21785b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

139100

15<sup>h</sup> 31<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2304	31.2	+45 15	8.4	9.4	Ko	3	..	3874ii	51	1225	31.4	-75 23	8.8	9.4	Go	3	..	14146b
2	2881	31.2	+17 14	8.5	9.1	Go	3	..	3772oi	52	680	31.5	+73 16	7.99	8.99	Ko	1	..	37752i
3	4023	31.2	-3 4	9.4	9.9	F8	2	..	41549b	53	2889	31.5	+39 21	5.44	6.79	Ma	8	5,8R	38498i
4	4128	31.2	-11 7	10.1	10.5	F5	1	..	40584b	54	2686	31.5	+29 2	9.2	10.2	Ko	4	..	5402m
5	12112	31.2	-31 11	8.22	8.8	G5	3	..	40701b	55	4023	31.5	-8 14	9.1	10.2	K2	2	..	41222b
6	10521	31.2	-38 56	7.94	8.8	Ko	5	..	41391b	56	4180	31.5	-10 8	9.26	9.68	F5	3	..	40584b
7	10599	31.2	-42 50	9.0	8.5	B9	6	..	19404b	57	4122	31.5	-16 55	9.17	9.67	F8	3	..	40295b
8	10075	31.2	-45 16	11.0	9.9	A	2	..	19404b	58	4108	31.5	-18 24	9.9	10.5	Go	2	..	40295b
9	9656	31.2	-50 7	9.9	9.5	Ao	3	..	39069b	59	4280	31.5	-21 5	9.1	10.0	G5	2	..	21931b
10	9322	31.2	-51 9	9.7	9.2	Ao	3	..	41517b	60	11000	31.5	-25 57	6.03	6.0	B9	..	..	56,92
11	8656	31.2	-52 42	8.9	9.0	A2	2	..	41517b	61	10125	31.5	-41 13	8.2	9.0	K2	4	..	19404b
12	6127	31.2	-58 53	8.2	9.3	Fo	5	..	23021b	62	10605	31.5	-42 40	9.9	9.9	A2	3	..	19404b
13	1850	31.2	-72 39	8.7	9.7	Ko	4	..	14146b	63	10076	31.5	-45 27	8.5	9.4	K2	2	..	39069b
14	1849	31.2	-72 52	9.4	10.4	Ko	1	..	14146b	64	9664	31.5	-50 7	9.83	9.8	K2	1	..	39069b
15	801	31.3	+69 30	7.99	9.06	K2	1	..	37752i	65	6616	31.5	-55 2	9.06	8.6	B8	7	..	23021b
16	2305	31.3	+45 15	8.2	9.2	Ko	2	..	3874ii	66	6652	31.5	-55 44	9.3	10.4	K2	2	..	23021b
17	3103	31.3	+1 28	9.1	9.2	A2	4	..	16850b	67	4715	31.5	-63 3	8.5	9.5	Ko	1	..	19750b
18	4144	31.3	-15 11	8.06	9.13	K2	5	..	40584b	68	3634	31.5	-63 40	9.5	10.9	Ma	..	..	M
19	4121	31.3	-16 39	9.7	10.2	F8	2	..	40295b	69	3237	31.5	-64 33	10.5	10.5	B9	1	..	21785b
20	3988	31.3	-22 35	9.9	11.6	Ko	1	..	21931b	70	3236	31.5	-64 52	8.6	8.6	B9	5	..	21785b
21	12418	31.3	-23 19	9.2	9.0	G5	4	..	21931b	71	2810	31.5	-66 41	9.9	10.4	F8	2	..	21785b
22	10467	31.3	-27 9	9.9	10.1	Go	3	..	40714b	72	2425	31.5	-69 52	9.7	9.7	B9	2	..	14146b
23	11449	31.3	-28 59	8.2	9.2	Go	4	..	40714b	73	1635	31.5	-73 20	8.9	9.9	Ko	3	..	14146b
24	10944	31.3	-32 9	8.7	8.7	F5	3	..	40701b	74	2992	31.6	+7 32	8.7	8.8	A3	4	..	9475b
25	10044	31.3	-39 47	7.8	9.3	Mb	3	..	41391b	75	2981	31.6	+2 34	10.5	11.6	K2	1	..	16850b
26	9805	31.3	-41 3	9.6	9.3	Ao	4	..	19404b	76	3104	31.6	+1 18	9.8	10.2	F5	2	..	16850b
27	10601	31.3	-42 14	4.27	6.6	K5	..	R	28,210	77	3930	31.6	-4 18	8.7	9.1	F5	4	..	41188b
28	10067	31.3	-43 12	10.3	11.1	Ko	1	..	19404b	78	4117	31.6	-5 42	7.21	8.28	K2	5	..	41188b
29	9324	31.3	-52 2	5.48	5.48	Ao	..	..	56,136	79	4247	31.6	-6 13	9.4	9.9	F8	1	..	41222b
30	6610	31.3	-53 30	9.6	10.8	K5	1	..	41517b	80	4062	31.6	-7 27	8.3	9.3	Ko	5	..	41222b
31	6202	31.3	-59 7	9.8	9.8	Ao	2	..	37619b	81	4064	31.6	-7 51	9.4	10.2	G5	3	..	41222b
32	2930	31.3	-67 29	9.5	9.5	Ao	3	..	21785b	82	4380	31.6	-17 42	9.4	9.4	Ao	4	..	40295b
33	2485	31.4	+44 25	7.22	8.22	Ko	5	..	38718i	83	4379	31.6	-18 0	8.1	8.7	Go	5	..	40295b
34	2803	31.4	+16 26	8.5	9.5	Ko	2	..	3772oi	84	12395	31.6	-30 55	7.47	8.1	F5	6	..	40701b
35	2988	31.4	+7 46	9.1	9.7	Go	1	..	9475b	85	10048	31.6	-39 37	8.9	9.4	F8	3	..	41391b
36	3056	31.4	+3 15	9.1	10.1	Ko	3	..	16850b	86	10607	31.6	-42 11	9.5	9.9	G5	2	..	19404b
37	2988	31.4	-0 14	6.51	6.93	F5	9	..	41549b	87	9834	31.6	-50 1	8.93	9.2	Ko	3	..	39069b
38	4378	31.4	-17 43	10.1	11.3	K5	1	..	40295b	88	6204	31.6	-60 3	9.8	9.8	Ao	2	..	37619b
39	4107	31.4	-18 48	9.7	10.5	G5	2	..	21931b	89	5975	31.6	-60 51	8.8	9.8	Ko	1	..	37619b
40	4279	31.4	-20 56	9.1	10.5	G5	1	..	21931b	90	2106	31.6	-70 18	8.6	9.7	K2	2	..	14146b
41	12420	31.4	-24 5	9.7	10.7	K2	1	..	40714b	91	1851	31.6	-72 13	10.0	10.0	Ao	2	..	14146b
42	10380	31.4	-37 54	9.5	10.5	G5	2	..	37631b	92	912	31.7	+65 57	9.9	10.3	F5	2	..	38737i
43	10526	31.4	-38 37	8.2	9.3	Ko	3	..	41391b	93	2510	31.7	+43 30	6.83	7.61	G5	8	..	38718i
44	10045	31.4	-39 31	8.0	9.3	Ko	3	..	41391b	94	2621	31.7	+36 33	8.7	9.7	Ko	1	..	38498i
45	9831	31.4	-49 15	10.1	9.5	A2	2	..	39069b	95	2884	31.7	+10 21	5.40	6.40	Ko	..	R	56,92
46	8661	31.4	-52 55	9.0	10.4	Ma	..	..	M	96	..	31.7	+2 16	..	..	F8	1	..	16850b
47	7126	31.4	-57 11	10.4	10.4	B9	5	..	23021b	97	3379	31.7	+0 4	9.0	9.1	A5	4	..	16850b
48	6129	31.4	-58 24	9.0	9.8	G5	4	..	23021b	98	3933	31.7	-4 37	8.9	10.0	K2	2	..	41188b
49	5133	31.4	-61 28	9.3	9.3	Ao	3	..	19750b	99	4118	31.7	-5 15	9.25	10.25	Ko	1	..	41549b
50	2809	31.4	-66 29	9.0	9.8	G5	4	..	21785b	100	4295	31.7	-13 3	8.1	8.7	Go	7	..	40584b

## THE HENRY DRAPER CATALOGUE.

139200

15<sup>h</sup> 31<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4210	31.7	-13 47	8.7	9.7	Ko	4	..	40584b	51	4111	32.0	-19 5	9.4	9.4	G5	3	..	21931b
2	4152	31.7	-21 47	6.95	7.2	Ao	9	..	21931b	52	4161	32.0	-19 39	10.3	11.7	Ma	..	..	M
3	11004	31.7	-25 19	10.2	9.8	F8	2	..	40714b	53	4153	32.0	-21 17	9.4	10.0	F8	2	..	21931b
4	10962	31.7	-26 17	8.9	10.1	K5	3	..	40714b	54	3989	32.0	-22 49	5.82	6.9	Ko	..	0,10	56,136
5	10071	31.7	-43 26	11.0	10.5	A	1	..	19404b	55	11831	32.0	-29 38	10.4	9.4	Ao	3	..	40714b
6	10078	31.7	-45 23	7.26	7.1	B8	8	..	39069b	56	10075	32.0	-43 11	9.9	9.9	F2	2	..	19404b
7	10228	31.7	-46 33	9.9	9.3	A2	4	..	39069b	57	10077	32.0	-43 32	10.6	10.2	A2	1	..	19404b
8	9665	31.7	-50 55	8.5	9.5	K5	2	..	41517b	58	10083	32.0	-46 5	10.6	9.9	A	1	..	39069b
9	6840	31.7	-56 16	10.3	10.7	F5	3	..	23021b	59	10230	32.0	-46 47	8.3	9.7	K5	2	..	39069b
10	6132	31.7	-58 49	8.8	9.2	B8	6	..	23021b	60	10229	32.0	-47 3	9.9	9.9	Ao	2	..	39069b
11	6206	31.7	-59 34	6.06	6.4	F5	6	..	3375b	61	10157	32.0	-48 17	7.8	9.5	Ma	3	..	39069b
12	3636	31.7	-63 31	7.3	7.3	Ao	8	..	19750b	62	6208	32.0	-59 50	8.7	10.1	Ma	1	..	37619b
13	456	31.8	+82 14	8.4	9.0	Go	3	..	3724oi	63	3239	32.0	-64 34	9.7	9.8	A2	2	..	21785b
14	2247	31.8	+47 0	8.6	9.4	G5	3	..	38741i	64	2932	32.0	-67 16	8.9	8.9	B9	5	..	21785b
15	2988	31.8	+19 10	8.5	9.1	Go	3	..	3772oi	65	1230	32.0	-75 29	8.6	9.7	K2	3	..	14146b
16	2890	31.8	+15 26	6.84	8.19	Mb	7	..	37689i	66	246	32.0	-87 16	9.8	11.0	K5	3	..	22980b
17	4119	31.8	- 5 36	8.8	10.0	K5	1	..	41188b	67	2705	32.1	+26 49	10.1	11.1	Ko	2	..	5402m
18	4132	31.8	-10 17	9.46	9.80	F2	2	..	40584b	68	2891	32.1	+15 15	6.86	6.86	Ao	9	..	37689i
19	4146	31.8	-15 25	9.7	10.5	G5	3	..	40584b	69	4297	32.1	-12 23	10.7	10.7	Ao	2	..	40584b
20	4381	31.8	-17 50	10.6	11.2	Go	2	..	40295b	70	4147	32.1	-15 23	9.9	10.5	Go	2	..	40584b
21	12204	31.8	-24 12	8.9	10.2	K2	2	..	40714b	71	10536	32.1	-38 48	6.02	7.2	A3	..	1,10	56,136
22	2931	31.8	-68 2	8.5	9.7	K5	2	0,2	14146b	72	10058	32.1	-39 25	9.8	10.2	K2	2	..	14367b
23	1883	31.9	+51 51	9.0	9.1	A5	2	..	38736i	73	10057	32.1	-39 39	9.8	9.9	Ao	2	..	41391b
24	2447	31.9	+28 45	8.3	8.8	F8	4	3,2-	38734i	74	10231	32.1	-46 53	9.7	9.6	Fo	2	..	39069b
25	2807	31.9	+16 27	5.88	6.16	Fo	9	R	37689i	75	9676	32.1	-50 44	8.1	9.0	A3	4	R	41517b
26	3037	31.9	+ 4 8	10.1	10.6	F8	2	..	16850b	76	9676	32.1	-50 44	8.1	9.0	G	4	R	41517b
27	2989	31.9	- 0 21	9.1	9.6	F8	3	..	16850b	77	6841	32.1	-56 37	10.0	10.4	F5	3	..	23021b
28	4211	31.9	-13 20	8.6	9.2	Go	6	..	40584b	78	7130	32.1	-57 13	10.3	10.3	B8	4	..	23021b
29	4110	31.9	-18 27	10.6	11.6	Ko	1	..	40295b	79	3117	32.1	-65 28	9.5	9.5	Ao	3	..	21785b
30	11007	31.9	-26 3	10.4	10.2	Go	2	..	40714b	80	2933	32.1	-67 41	9.4	9.8	F5	3	..	14146b
31	10620	31.9	-33 57	8.0	9.9	K5	2	..	40279b	81	2534	32.1	-68 26	9.7	9.7	B9	2	..	14146b
32	10385	31.9	-37 11	10.2	9.9	Go	1	..	41391b	82	1619	32.2	+60 39	8.7	8.8	A3	2	..	38764i
33	10532	31.9	-38 50	6.62	7.2	B9	6	..	8991b	83	2194	32.2	+50 20	7.09	8.16	K2	6	..	38741i
34	10613	31.9	-42 49	7.6	9.0	Ko	5	..	19404b	84	2678	32.2	+38 42	6.50	7.57	K2	4	2,6	38498i
35	10175	31.9	-47 48	11.0	10.2	Ao	2	..	42502b	85	2862	32.2	+11 56	8.7	9.0	Fo	4	..	37689i
36	6655	31.9	-55 6	7.16	8.6	Ko	8	..	23021b	86	3044	32.2	+ 5 46	9.8	10.6	G5	1	..	16850b
37	7128	31.9	-57 55	10.4	10.4	B8	3	..	23021b	87	3381	32.2	+ 0 11	8.5	9.1	Go	6	..	16850b
38	5141	31.9	-61 8	8.8	9.8	Ko	1	..	37619b	88	4027	32.2	- 8 43	8.5	8.6	A5	6	..	41222b
39	3238	31.9	-64 57	9.8	9.8	Ao	3	..	21785b	89	4298	32.2	-12 46	9.1	10.1	Ko	2	..	40584b
40	2107	31.9	-70 57	8.7	9.7	Ko	2	..	14146b	90	10478	32.2	-27 53	6.33	7.4	K2	8	..	40714b
41	1468	31.9	-74 23	10.3	10.4	A3	2	..	14146b	91	11834	32.2	-29 16	7.9	8.4	Fo	7	..	40714b
42	903	32.0	+67 23	8.9	9.2	Fo	2	5,3	38737i	92	10391	32.2	-38 2	8.2	10.2	K5	3	..	14367b
43	2622	32.0	+36 15	8.3	8.4	A2	3	..	38498i	93	10059	32.2	-39 6	9.8	11.2	Mb	..	..	M
44	2990	32.0	+19 29	8.7	9.5	G5	2	..	3772oi	94	10137	32.2	-41 49	9.3	9.4	Ao	3	..	19404b
45	2861	32.0	+11 56	7.6	8.6	Ko	3	..	37689i	95	10079	32.2	-43 32	10.1	10.2	A2	2	..	19404b
46	2830	32.0	+10 55	8.9	10.0	K2	2	..	9475b	96	10181	32.2	-47 31	9.9	10.2	G5	2	..	42502b
47	3057	32.0	+ 3 50	10.5	11.5	Ko	2	..	16850b	97	10178	32.2	-47 58	9.7	9.9	F5	3	..	42502b
48	4245	32.0	-14 24	8.8	8.9	A3	6	..	40584b	98	6139	32.2	-58 49	8.0	9.3	Ko	4	R	23021b
49	4123	32.0	-16 24	8.5	8.6	A3	6	..	40295b	99	6139	32.2	-58 49	8.0	9.3	A2	4	R	23021b
50	4112	32.0	-18 54	8.9	8.9	Ao	5	..	21931b	100	4734	32.2	-62 52	6.9	6.9	B8	9	..	19750b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

139300

15<sup>h</sup> 32<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2535	32.2	-68 19	8.8	10.0	K5	1	..	14146b	51	10182	32.5	-47 17	9.7	10.8	Ma	..	..	M
2	2108	32.2	-70 44	8.5	8.5	B8	6	..	14146b	52	9683	32.5	-50 7	9.63	9.0	A2	2	..	39069b
3	1906	32.2	-71 46	9.2	9.2	A0	4	..	14146b	53	9682	32.5	-50 35	9.9	9.2	A0	1	..	39069b
4	1639	32.2	-73 13	9.4	10.5	K2	1	..	14146b	54	9346	32.5	-51 38	10.1	9.5	F2	1	..	41517b
5	478	32.3	+80 6	8.40	8.40	A0	3	..	37809i	55	6843	32.5	-56 49	8.2	8.6	B9	8	..	23021b
6	1061	32.3	+65 32	8.8	8.9	A3	6	..	37746i	56	6215	32.5	-59 23	9.7	9.8	A2	2	..	37619b
7	2195	32.3	+50 1	7.52	8.70	K5	4	..	38741i	57	1756	32.6	+54 16	6.03	7.03	K0	9	..	38736i
8	2990	32.3	-0 33	8.1	9.2	K2	5	..	41549b	58	3057	32.6	+7 51	9.1	9.7	G0	2	..	9475b
9	9811	32.3	-40 47	8.4	9.3	A2	5	..	19404b	59	3040	32.6	+3 58	8.5	9.5	K0	5	..	16850b
10	6619	32.3	-54 4	9.9	10.4	F8	1	..	41517b	60	3105	32.6	+1 45	8.7	9.7	K0	4	..	16850b
11	6659	32.3	-55 51	10.1	10.7	G0	2	..	23021b	61	4212	32.6	-13 47	8.7	9.0	F0	6	..	40584b
12	6842	32.3	-56 35	7.1	8.1	K0	9	..	23021b	62	4150	32.6	-15 19	9.4	9.5	A2	4	..	40584b
13	7132	32.3	-57 27	8.9	10.4	K5	3	..	23021b	63	4385	32.6	-17 14	10.3	10.7	F5	2	..	40295b
14	7133	32.3	-57 44	10.6	10.4	B	2	..	23021b	64	4165	32.6	-19 35	6.78	7.1	F2	..	0.9	56,136
15	3241	32.3	-64 57	9.2	9.8	G0	3	..	21785b	65	11837	32.6	-29 27	3.80	3.63	B3	..	R	28,210
16	2812	32.3	-66 16	9.5	9.5	A0	4	..	21785b	66	10081	32.6	-43 10	9.2	9.6	F0	3	..	19404b
17	1637	32.3	-73 36	9.8	9.9	A2	2	..	14146b	67	10168	32.6	-48 44	9.0	8.9	A0	4	..	39069b
18	1638	32.3	-73 44	9.2	9.6	F5	3	..	14146b	68	6623	32.6	-53 17	10.1	10.1	B8	3	..	41517b
19	1077	32.4	+64 14	var.	var.	A5	6	R	37746i	69	7136	32.6	-57 24	9.5	10.7	K5	2	..	23021b
20	1793	32.4	+53 45	9.1	9.9	G5	3	..	38736i	70	6216	32.6	-59 31	9.0	10.0	K0	2	..	37619b
21	2307	32.4	+45 47	8.4	9.5	K2	3	..	38741i	71	5991	32.6	-60 49	8.3	9.3	K5	2	..	19750b
22	2904	32.4	+40 39	8.3	8.8	F8	3	..	38718i	72	2109	32.6	-70 14	9.48	9.5	F2	3	..	14146b
23	2903	32.4	+40 10	7.87	8.87	K0	4	..	38718i	73	2196	32.7	+50 43	8.8	9.6	G5	1	..	38736i
24	2623	32.4	+36 3	7.58	8.36	G5	4	..	38498i	74	2661	32.7	+37 42	8.7	10.1	Mb	..	..	M
25	2517	32.4	+27 30	9.5	9.5	A0	5	..	5402m	75	2863	32.7	+12 38	7.02	7.30	F0	7	..	37689i
26	2832	32.4	+23 12	8.7	9.8	K2	2	..	37720i	76	3058	32.7	+3 23	10.5	11.6	K2	1	..	16850b
27	4247	32.4	-14 12	7.31	7.59	F0	8	..	40584b	77	3934	32.7	-4 25	9.7	9.8	A3	1	..	41549b
28	4116	32.4	-18 36	10.6	11.4	G5	1	..	40295b	78	3936	32.7	-5 5	8.00	9.18	K5	3	..	41188b
29	4285	32.4	-20 41	5.94	7.2	K0	..	..	56,136	79	4069	32.7	-7 21	8.1	9.2	K2	4	..	41222b
30	4284	32.4	-21 2	9.1	10.7	K2	1	..	21931b	80	4299	32.7	-12 39	10.6	11.2	G0	1	..	40584b
31	10062	32.4	-39 39	10.2	9.4	A	2	..	41391b	81	4157	32.7	-21 16	8.3	8.3	A5	6	..	21931b
32	10624	32.4	-42 19	9.5	10.2	K0	1	..	19404b	82	11013	32.7	-25 58	9.9	10.5	K5	1	..	40714b
33	9344	32.4	-51 30	10.1	9.5	A0	3	..	41517b	83	10966	32.7	-26 31	8.3	9.0	F8	6	..	40714b
34	8688	32.4	-52 21	9.8	9.8	A0	1	..	41517b	84	10965	32.7	-32 29	9.0	9.3	K0	2	..	40701b
35	6620	32.4	-53 41	10.0	10.1	A3	3	..	41517b	85	10545	32.7	-38 35	9.6	9.4	A0	3	..	41391b
36	6621	32.4	-54 31	10.7	10.7	A0	2	..	41517b	86	6218	32.7	-59 52	9.5	9.6	A2	3	..	37619b
37	5146	32.4	-61 24	9.1	8.9	B9	5	..	19750b	87	621	32.8	+73 52	8.2	9.3	K2	2	..	37752i
38	3242	32.4	-64 25	8.9	8.9	B8	4	..	21785b	88	735	32.8	+71 1	9.1	9.2	A2	3	..	38737i
39	3243	32.4	-64 44	6.9	7.2	F0	9	..	21785b	89	2682	32.8	+30 19	6.52	6.94	F5	8	0.9	38422i
40	2537	32.4	-68 30	9.4	9.7	F0	3	..	14146b	90	2707	32.8	+26 33	9.9	11.0	A2	3	..	5402m
41	2905	32.5	+40 8	6.78	7.78	K0	7	..	38718i	91	2833	32.8	+11 28	7.59	8.37	G5	4	..	37689i
42	3075	32.5	+9 4	8.6	9.4	G5	2	..	37689i	92	4249	32.8	-14 53	9.4	10.4	K0	1	..	40584b
43	3806	32.5	-3 16	8.00	8.50	F8	8	..	41549b	93	4125	32.8	-16 13	9.9	11.1	K5	1	..	40295b
44	4123	32.5	-5 24	9.4	9.9	F8	1	..	41549b	94	4386	32.8	-18 7	8.8	9.3	F8	5	..	40295b
45	4124	32.5	-16 13	10.3	10.9	G0	2	..	40295b	95	4166	32.8	-19 27	9.4	10.2	K2	2	..	21931b
46	4164	32.5	-20 1	8.58	9.3	K0	4	..	21931b	96	10415	32.8	-35 41	8.9	9.9	G5	2	..	14367b
47	12207	32.5	-24 20	8.1	7.9	A0	7	..	40714b	97	10065	32.8	-39 55	9.21	10.2	K5	1	..	41391b
48	10064	32.5	-39 41	8.9	8.5	A0	7	..	41391b	98	10630	32.8	-42 26	10.3	10.0	G5	1	..	19404b
49	10143	32.5	-41 13	10.0	10.0	G5	1	..	19404b	99	10186	32.8	-47 9	9.7	9.0	A0	4	..	39069b
50	10145	32.5	-41 21	10.4	9.7	A3	3	..	19404b	100	9690	32.8	-51 1	9.9	9.5	A5	2	..	39069b



## THE HENRY DRAPER CATALOGUE.

139400

15<sup>h</sup> 32<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6624	32.8	-54 14	10.4	10.4	A	1	..	41517b	51	10106	33.1	-45 34	10.6	9.7	F5	1	..	39069b
2	7139	32.8	-57 54	9.6	10.8	K5	2	..	23021b	52	6629	33.1	-54 46	8.0	8.6	B8	7	..	23021b
3	..	32.8	-67 11	..	..	G5	1	..	21785b	53	5157	33.1	-62 5	8.3	8.3	B9	7	..	19750b
4	518	32.9	+78 40	8.36	9.36	Ko	3	..	37809i	54	1856	33.1	-73 5	9.0	9.6	Go	5	..	14146b
5	2520	32.9	+27 5	9.2	10.2	Ko	4	..	5402m	55	1622	33.2	+60 1	7.91	9.09	K5	3	..	38764i
6	3382	32.9	+0 38	9.5	9.9	F5	2	..	16850b	56	2197	33.2	+50 24	8.4	8.8	F5	2	..	38736i
7	3980	32.9	-11 31	9.9	10.4	F8	2	..	40584b	57	2886	33.2	+10 35	7.04	7.54	F8	6	..	37689i
8	4250	32.9	-14 11	6.90	7.90	Ko	7	..	40584b	58	2996	33.2	+7 45	8.7	9.0	Fo	6	..	37689i
9	4388	32.9	-17 20	7.23	8.23	Ko	8	..	40295b	59	3050	33.2	+5 17	10.5	10.6	A2	1	R	16850b
10	4167	32.9	-19 50	8.5	9.4	Ko	3	..	21931b	60	4031	33.2	-8 28	6.61	7.11	F8	7	R	6418b
11	3993	32.9	-22 43	7.24	8.7	K5	6	..	21931b	61	4032	33.2	-8 28	6.54	7.04	F8	7	R	6418b
12	10152	32.9	-41 58	8.9	9.7	K2	1	..	19404b	62	4152	33.2	-15 11	8.96	9.96	Ko	2	..	40584b
13	10291	32.9	-44 21	9.5	9.3	A2	4	..	19404b	63	4289	33.2	-20 15	8.83	9.0	F5	5	..	21931b
14	10246	32.9	-46 35	8.7	9.9	K5	2	0,1	42502b	64	4288	33.2	-20 57	9.2	9.4	Fo	3	..	21931b
15	9692	32.9	-50 9	8.78	8.9	Ao	5	..	39069b	65	10297	33.2	-44 42	7.9	8.1	K2	5	..	39069b
16	4746	32.9	-62 47	9.2	9.3	A2	2	..	19750b	66	10250	33.2	-46 49	9.9	9.6	Ao	3	..	39069b
17	3244	32.9	-64 6	8.4	9.8	Ma	3	..	21785b	67	10180	33.2	-48 5	9.7	9.2	Ao	3	..	39069b
18	2936	32.9	-67 14	9.8	9.8	Ao	2	..	21785b	68	9361	33.2	-51 54	9.3	8.6	B9	5	..	41517b
19	2935	32.9	-67 54	9.1	9.1	Ao	4	..	14146b	69	6627	33.2	-53 25	9.8	9.9	A3	3	..	41517b
20	736	33.0	+71 40	8.8	9.4	Go	2	..	38737i	70	7141	33.2	-57 12	9.7	9.8	A2	4	..	23021b
21	2607	33.0	+32 55	9.5	10.9	Mc	..	..	M	71	3643	33.2	-63 51	7.0	8.1	K2	7	..	21785b
22	2887	33.0	+16 52	7.7	8.7	Ko	4	..	37720i	72	3642	33.2	-63 59	7.8	7.8	B9	6	..	21785b
23	2865	33.0	+11 56	8.6	9.6	Ko	2	..	37689i	73	3245	33.2	-64 5	9.0	9.3	Fo	3	..	21785b
24	3048	33.0	+5 25	8.3	9.1	G5	5	..	16850b	74	1236	33.2	-75 36	9.0	9.0	Ao	4	..	40252b
25	3049	33.0	+5 22	8.4	9.4	K	2	R	16850b	75	1149	33.2	-77 7	8.8	9.3	F8	4	..	40252b
26	4125	33.0	-5 48	8.1	8.7	Go	3	..	41188b	76	737	33.3	+70 58	9.6	10.4	G5	1	..	38737i
27	10967	33.0	-26 55	9.2	10.4	F5	2	..	40714b	77	1623	33.3	+60 26	8.1	9.3	K5	2	..	38764i
28	10550	33.0	-38 16	10.6	10.8	K2	1	..	37631b	78	1886	33.3	+52 24	6.48	6.76	Fo	3	0,9	37316i
29	10066	33.0	-39 29	9.2	9.4	A5	3	..	41391b	79	2409	33.3	+49 35	9.0	10.1	K2	1	..	38736i
30	10153	33.0	-41 16	7.4	8.8	Ko	5	..	19404b	80	2892	33.3	+39 39	9.1	10.1	Ko	1	..	38718i
31	10636	33.0	-42 26	7.7	7.3	B3	9	..	19404b	81	2792	33.3	+21 29	9.5	10.3	G5	2	..	37720i
32	10091	33.0	-43 17	7.3	7.3	B5	8	..	19404b	82	2993	33.3	+19 20	9.1	9.7	Go	2	..	37720i
33	10176	33.0	-48 41	10.1	9.2	Ao	2	..	39069b	83	3107	33.3	+1 16	8.3	8.6	F2	7	..	16850b
34	6145	33.0	-58 50	9.0	9.2	Ao	4	..	23021b	84	4302	33.3	-12 41	9.9	10.7	G5	1	..	40584b
35	3640	33.0	-63 33	9.1	9.2	A2	4	..	19750b	85	4129	33.3	-16 45	9.33	10.33	Ko	3	..	40295b
36	2813	33.0	-66 31	9.1	10.1	Ko	3	..	21785b	86	4169	33.3	-19 24	8.0	7.7	B9	8	..	21931b
37	1908	33.0	-72 2	10.0	10.0	Ao	2	..	14146b	87	12446	33.3	-23 38	9.1	9.9	Ko	3	..	21931b
38	1621	33.1	+60 35	8.2	8.6	F5	3	..	38764i	88	10640	33.3	-42 35	10.1	9.9	Ko	2	..	19404b
39	2408	33.1	+49 8	8.2	8.7	F8	4	..	38736i	89	6848	33.3	-56 36	10.2	10.3	A2	2	..	23021b
40	2310	33.1	+45 17	8.2	9.0	G5	2	..	38496i	90	6849	33.3	-56 39	10.4	10.4	Ao	2	..	23021b
41	2512	33.1	+43 35	8.9	10.0	K2	1	..	38718i	91	6154	33.3	-58 27	8.5	8.4	B9	7	..	23021b
42	2622	33.1	+42 28	8.6	9.2	Go	2	..	38718i	92	467a	33.4	+78 58	var.	var.	Md	..	R	M
43	2450	33.1	+28 6	10.8	11.3	F8	2	..	5402m	93	1766	33.4	+54 57	5.74	5.74	Ao	10	..	38736i
44	3809	33.1	-3 44	9.4	10.4	Ko	1	..	41549b	94	2606	33.4	+31 57	9.6	10.4	G5	2	..	38719i
45	4389	33.1	-17 41	9.7	10.8	K2	3	..	40295b	95	2888	33.4	+17 34	8.7	9.5	G5	2	..	37720i
46	4118	33.1	-18 58	5.53	6.31	G5	..	..	56,92	96	3108	33.4	+1 29	9.8	10.9	K2	1	..	16850b
47	4159	33.1	-22 8	8.3	8.7	K5	4	..	21931b	97	4291	33.4	-20 54	9.9	9.6	F5	2	..	21931b
48	10486	33.1	-28 2	9.9	11.5	K5	1	..	40714b	98	10970	33.4	-26 50	9.9	10.2	Go	2	..	40714b
49	10478	33.1	-34 18	8.2	9.0	F5	6	..	40279b	99	10491	33.4	-27 22	9.9	10.7	Ko	2	..	40714b
50	10477	33.1	-34 27	8.4	9.3	Go	4	..	40279b	100	11472	33.4	-28 10	9.1	9.2	F8	3	..	40714b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

139500

15<sup>h</sup> 33<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
		m.	° ' "									m.	° ' "						
1	12150	33.4	-31 33	9.4	9.3	F8	3	..	40279b	51	2997	33.7	+ 7 21	8.7	9.5	G5	2	..	37689i
2	10974	33.4	-32 39	8.7	9.3	G5	2	..	40701b	52	3076	33.7	+ 6 35	7.9	8.9	Ko	4	..	16850b
3	10318	33.4	-36 7	7.8	8.4	Go	4	..	41391b	53	2983	33.7	+ 2 34	10.5	11.0	F8	1	..	16850b
4	10641	33.4	-42 42	9.3	9.0	B8	4	..	19404b	54	4130	33.7	- 5 42	8.7	9.1	F5	3	..	41188b
5	8715	33.4	-52 9	8.6	8.9	Ko	3	..	41517b	55	4036	33.7	- 8 15	8.9	9.5	Go	3	..	41222b
6	6155	33.4	-58 26	8.8	9.5	Ko	2	..	23021b	56	12447	33.7	-23 28	8.7	8.3	Fo	7	..	21931b
7	3120	33.4	-65 9	10.3	10.3	Ao	1	..	21785b	57	10973	33.7	-27 2	9.7	9.1	G5	4	..	40714b
8	2426	33.4	-69 57	7.50	7.6	Ao	5	..	35947b	58	11854	33.7	-29 25	9.5	8.5	F8	5	..	40714b
9	2451	33.5	+28 38	9.1	9.7	Go	4	..	5402m	59	12423	33.7	-31 4	8.3	8.4	A3	3	..	40701b
10	2835	33.5	+23 49	8.5	9.6	K2	2	..	37720i	60	10425	33.7	-35 22	9.2	9.9	Go	2	..	14367b
11	2863	33.5	+22 48	8.3	9.5	K5	2	..	37720i	61	10408	33.7	-37 58	9.8	9.9	F8	3	..	14367b
12	2794	33.5	+21 46	7.8	8.1	Fo	4	5.4	37720i	62	10563	33.7	-38 27	8.9	9.4	G5	2	..	41391b
13	2991	33.5	- 0 16	9.3	10.5	K5	2	..	16850b	63	10564	33.7	-38 42	10.6	10.8	Ao	1	..	37631b
14	3074	33.5	- 1 27	7.9	8.7	G5	4	..	41549b	64	9879	33.7	-49 49	10.6	9.8	A5	1	..	39069b
15	4128	33.5	- 6 0	8.3	8.4	A5	4	..	41188b	65	6163	33.7	-59 0	10.1	10.1	B9	2	..	37619b
16	4253	33.5	- 6 49	10.1	10.9	G5	1	..	41222b	66	6235	33.7	-59 5	10.1	10.1	A	1	..	37619b
17	4154	33.5	-15 48	10.3	10.9	Go	1	..	40584b	67	2110	33.7	-70 23	9.4	10.0	Go	1	..	14146b
18	3996	33.5	-22 49	6.21	6.6	Ao	6	..	43260b	68	1473	33.7	-74 35	9.8	9.9	A5	2	..	14146b
19	10492	33.5	-27 19	8.5	8.0	Ao	8	..	40714b	69	2684	33.8	+30 26	8.2	8.7	F8	6	..	38719i
20	12421	33.5	-30 37	8.9	9.0	G5	3	..	40701b	70	2521	33.8	+27 39	10.1	11.1	Ko	2	..	5402m
21	10631	33.5	-34 5	4.63	6.6	Ko	..	R	28,210	71	4393	33.8	-17 59	9.7	10.7	Ko	1	..	40295b
22	10423	33.5	-35 51	7.92	8.0	F2	7	..	41391b	72	4394	33.8	-18 1	9.7	10.8	K2	1	..	40295b
23	10099	33.5	-43 11	8.9	9.0	Fo	4	..	19404b	73	4174	33.8	-19 52	9.7	10.5	G5	1	..	21931b
24	10100	33.5	-43 55	7.9	8.0	Ao	6	..	19404b	74	4292	33.8	-20 41	8.57	9.0	G5	4	..	21931b
25	10101	33.5	-43 58	7.1	7.3	B8	10	..	19404b	75	3999	33.8	-22 34	10.1	10.8	K2	1	..	21931b
26	10200	33.5	-47 41	10.6	9.7	Ao	2	..	39069b	76	12450	33.8	-23 24	9.4	10.2	Ma	1	..	21931b
27	9874	33.5	-49 32	9.3	9.5	K2	1	..	39069b	77	10495	33.8	-27 43	9.2	9.7	K5	2	..	40714b
28	9875	33.5	-50 3	9.68	9.2	B9	2	..	39069b	78	11855	33.8	-29 37	10.4	9.9	F8	1	..	40714b
29	6632	33.5	-53 40	9.6	9.6	B9	3	..	41517b	79	10647	33.8	-42 41	8.6	8.1	B8	7	..	19404b
30	6663	33.5	-55 32	10.4	10.4	Ao	2	..	23021b	80	8726	33.8	-52 53	9.1	8.9	A2	4	..	41517b
31	6156	33.5	-58 12	10.0	10.0	Ao	3	..	23021b	81	3123	33.8	-65 54	8.5	8.6	A2	4	..	21785b
32	6229	33.5	-59 55	9.5	9.8	Fo	3	..	37619b	82	2111	33.8	-70 13	9.30	10.3	Ko	1	..	14146b
33	6228	33.5	-60 3	10.0	10.0	B9	2	..	37619b	83	1910	33.8	-71 37	9.3	10.3	Ko	1	..	14146b
34	3121	33.5	-65 42	8.2	9.2	Ko	7	..	21785b	84	1859	33.8	-72 50	9.5	9.6	A2	4	..	14146b
35	3122	33.6	-65 36	var.	var.	Mb	3	R	21785b	85	1642	33.8	-73 45	10.5	10.5	Ao	1	..	14146b
36	1909	33.5	-71 23	9.2	10.2	Ko	1	..	14146b	86	842	33.9	+68 9	6.90	7.68	G5	7	0.6	38737i
37	1095	33.5	-76 43	9.0	9.0	Ao	4	..	40252b	87	904	33.9	+66 59	9.2	10.2	Ko	2	..	38737i
38	3386	33.6	+ 0 16	9.8	10.6	G5	2	..	16850b	88	2690	33.9	+29 48	var.	var.	Go	2	R	5402m
39	4030	33.6	- 2 30	8.1	8.4	Fo	5	..	41549b	89	2812	33.9	+16 44	8.7	9.3	G	2	..	37720i
40	4131	33.6	-16 16	9.9	11.1	K5	2	..	40295b	90	3387	33.9	+ 0 0	7.63	8.13	F8	8	..	16850b
41	10494	33.6	-27 11	9.5	9.6	F5	4	..	40714b	91	4216	33.9	-13 35	8.3	8.8	F8	7	..	40584b
42	10480	33.6	-34 20	9.2	9.0	F2	4	..	40279b	92	4175	33.9	-19 49	9.2	9.3	F8	5	..	21931b
43	10560	33.6	-38 23	8.2	8.8	G5	4	..	41391b	93	4002	33.9	-23 9	8.7	8.8	K2	5	..	21931b
44	10561	33.6	-39 4	8.6	9.4	K2	2	..	41391b	94	10322	33.9	-37 1	9.6	9.9	Go	2	..	41391b
45	10074	33.6	-39 52	9.0	9.6	A5	2	..	41391b	95	10081	33.9	-39 13	9.8	9.9	A5	1	..	41391b
46	10202	33.6	-47 52	9.5	8.5	B9	4	..	39069b	96	10080	33.9	-39 19	9.2	9.7	Go	4	..	14367b
47	3246	33.6	-64 40	9.8	9.8	Ao	3	..	21785b	97	10173	33.9	-41 37	7.6	8.1	Ao	9	..	19404b
48	1151	33.6	-77 39	9.5	9.5	Ao	1	..	40252b	98	10306	33.9	-44 18	7.7	7.6	A3	9	..	19404b
49	1078	33.7	+64 25	9.1	9.6	F8	3	..	37746i	99	10210	33.9	-47 25	6.26	7.3	K5	6	..	39069b
50	2708	33.7	+25 57	8.5	9.3	G5	2	..	38470i	100	6668	33.9	-55 47	8.7	8.9	Ao	5	..	23021b

## THE HENRY DRAPER CATALOGUE.

139600

15<sup>h</sup> 33<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4759	33.9	-62 8	9.4	9.5	A5	1	..	1975ob	51	10653	34.2	-42 30	9.0	9.3	Ko	3	..	19404b
2	2542	33.9	-68 16	8.9	9.4	F8	2	..	14146b	52	10214	34.2	-47 26	9.7	10.2	K	1	..	39069b
3	2543	33.9	-68 50	8.9	8.9	B9	4	..	14146b	53	6638	34.2	-53 22	9.9	9.9	Ao	1	..	41517b
4	1475	33.9	-74 32	7.9	8.7	G5	8	..	14146b	54	3248	34.2	-64 45	10.0	10.9	A	1	..	21785b
5	1476	33.9	-74 40	10.5	10.5	Ao	2	..	14146b	55	2937	34.2	-67 33	9.7	10.1	F5	3	..	21785b
6	843	34.0	+68 19	9.4	10.2	G5	1	..	38737i	56	2544	34.2	-68 48	8.2	9.4	K5	3	..	14146b
7	1062	34.0	+65 36	7.50	7.56	A2	9	..	37746i	57	2545	34.2	-68 58	8.9	9.7	G5	2	..	14146b
8	2901	34.0	+24 51	7.12	8.47	Mb	5	0.5	37720i	58	2429	34.2	-69 58	7.95	8.6	Go	7	..	14146b
9	2870	34.0	+12 36	7.14	7.12	B9	7	..	37689i	59	1153	34.2	-77 9	8.0	8.1	A2	7	..	40252b
10	2834	34.0	+10 57	7.09	7.87	G5	5	..	37689i	60	4194	34.3	-9 17	8.7	9.7	Ko	4	..	41242b
11	3079	34.0	+6 28	8.7	9.7	Ko	2	..	1685ob	61	4306	34.3	-12 29	10.1	10.1	Ao	3	..	40584b
12	11478	34.0	-28 54	8.9	8.8	Ao	4	..	40714b	62	4134	34.3	-17 3	10.1	11.2	K2	1	..	40295b
13	12431	34.0	-30 53	6.49	8.4	K2	6	..	40701b	63	12458	34.3	-23 30	5.06	7.0	Ko	..	0.6	56,136
14	10650	34.0	-42 10	8.3	8.4	A2	7	..	19404b	64	10310	34.3	-44 20	4.69	5.9	F5	..	R	28,210
15	10211	34.0	-47 32	9.3	10.2	K2	1	..	39069b	65	10266	34.3	-46 12	10.1	9.9	A2	2	..	39069b
16	8732	34.0	-53 4	7.0	7.5	B9	9	..	19894b	66	6634	34.3	-54 37	10.3	10.4	A2	2	2.1	21734b
17	6636	34.0	-53 38	10.3	10.3	Ao	2	..	41517b	67	3649	34.3	-63 49	8.1	8.1	B9	5	..	21785b
18	6853	34.0	-56 33	10.1	10.1	Ao	2	..	37619b	68	865	34.3	-79 18	7.7	8.5	G5	1	..	13442b
19	3247	34.0	-64 8	9.5	9.5	B9	3	..	21785b	69	592	34.4	+77 41	5.33	6.51	K5	..	0.7 R	56,92
20	2428	34.0	-69 10	9.6	10.0	F5	2	..	14146b	70	..	34.4	+27 21	..	..	F5	2	..	5402m
21	2838	34.1	+22 59	7.62	8.62	Ko	4	0.4	37720i	71	3063	34.4	+3 20	10.5	11.5	Ko	1	..	1685ob
22	3061	34.1	+3 48	7.6	8.7	K2	6	..	1685ob	72	2993	34.4	-0 45	8.1	9.1	Ko	5	..	41549b
23	3060	34.1	+3 23	9.8	10.9	K2	2	..	1685ob	73	4255	34.4	-14 57	9.9	10.9	Ko	1	..	40584b
24	3109	34.1	+0 52	9.79	10.79	Ko	1	..	1685ob	74	12457	34.4	-23 16	9.7	10.5	K2	1	..	21931b
25	4039	34.1	-8 39	8.7	9.5	G5	3	..	41242b	75	11484	34.4	-29 0	9.1	9.7	K2	1	..	40714b
26	4192	34.1	-9 15	8.7	9.3	Go	2	..	41242b	76	10436	34.4	-35 6	7.58	7.8	A5	7	..	40279b
27	4176	34.1	-19 23	8.8	8.5	A2	6	..	21931b	77	10091	34.4	-39 39	6.66	7.1	F5	9	..	41391b
28	4177	34.1	-19 27	6.90	7.2	F2	8	..	21931b	78	10184	34.4	-41 31	10.9	9.3	G5	3	..	19404b
29	10497	34.1	-27 44	9.9	9.5	G5	2	..	40714b	79	10267	34.4	-46 44	9.3	9.6	F2	3	..	39069b
30	10569	34.1	-38 45	11.1	10.8	Go	1	..	37631b	80	10200	34.4	-48 37	9.7	9.2	Ao	2	..	39069b
31	10083	34.1	-39 45	8.88	8.7	Ao	4	..	41391b	81	9373	34.4	-51 9	7.4	8.6	K2	5	..	41517b
32	10175	34.1	-41 21	9.5	9.0	A2	5	..	19404b	82	6635	34.4	-54 34	9.5	9.5	Ao	4	0.4	21734b
33	10309	34.1	-44 17	9.2	9.3	F8	3	..	19404b	83	6670	34.4	-55 11	10.7	10.7	Ao	2	0.2	21734b
34	9717	34.1	-50 52	9.2	8.9	Ao	5	..	41517b	84	6857	34.4	-56 13	9.7	11.1	Mb	..	..	M
35	6637	34.1	-53 46	10.3	10.3	Ao	2	..	41517b	85	6858	34.4	-56 18	9.5	10.1	Go	3	2.2	23021b
36	6854	34.1	-56 17	10.4	10.4	Ao	2	1.2	37619b	86	5173	34.4	-61 27	9.0	9.2	F8	3	..	37619b
37	6855	34.1	-56 33	9.8	10.1	Fo	2	5.2	37619b	87	3650	34.4	-63 36	9.8	9.8	Ao	3	..	1975ob
38	3647	34.1	-63 59	8.3	8.3	B9	5	..	21785b	88	2430	34.4	-69 44	9.5	9.5	B9	2	..	14146b
39	3124	34.1	-65 37	10.3	10.3	B9	3	..	21785b	89	2252	34.5	+47 39	8.6	9.4	G5	3	..	38741i
40	1911	34.1	-71 48	9.2	10.3	K2	1	..	14146b	90	2683	34.5	+38 21	7.8	8.9	K2	4	..	38718i
41	2907	34.2	+40 41	5.41	6.19	G5	9	0. R	38496i	91	2626	34.5	+36 34	6.96	7.38	F5	5	..	38718i
42	2840	34.2	+23 47	8.7	8.8	A3	4	..	37720i	92	2842	34.5	+22 58	8.5	9.0	F8	4	..	37720i
43	2894	34.2	+15 45	8.4	8.8	F5	5	..	37689i	93	3064	34.5	+3 1	10.5	11.1	Go	1	..	1685ob
44	3079	34.2	+9 15	9.3	9.8	F8	2	..	9475b	94	2995	34.5	-0 34	9.3	10.3	Ko	2	..	1685ob
45	4217	34.2	-13 34	9.4	9.5	A3	5	..	40584b	95	3986	34.5	-11 52	8.8	9.3	F8	4	..	40584b
46	4218	34.2	-13 44	8.3	9.3	Ko	6	..	40584b	96	10982	34.5	-32 32	9.6	9.3	Ko	4	..	40279b
47	11859	34.2	-29 27	8.9	9.3	G5	3	..	40714b	97	8748	34.5	-52 40	9.8	9.8	Ao	1	..	41517b
48	11857	34.2	-29 39	8.7	8.5	Ao	4	..	40714b	98	6642	34.5	-53 33	9.9	10.7	G5	1	..	41517b
49	10640	34.2	-33 55	9.3	9.0	Ao	3	..	40279b	99	6859	34.5	-56 50	9.0	9.6	A5	6	0.4	23021b
50	10085	34.2	-39 28	9.2	10.2	Ko	2	..	14367b	100	5174	34.5	-61 25	9.1	9.2	F8	2	..	37619b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

139700

15<sup>h</sup> 34<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2546	34.5	-69 5	8.8	8.8	B <sub>9</sub>	5	..	14146b	51	4125	34.8	-18 22	10.3	11.4	K <sub>2</sub>	1	..	40295b
2	2431	34.5	-69 32	9.0	10.0	K <sub>0</sub>	1	..	14146b	52	10193	34.8	-41 46	10.9	9.9	A <sub>2</sub>	2	..	19404b
3	1079	34.6	+64 27	9.4	10.4	K	2	..	37746i	53	7153	34.8	-57 25	10.6	10.7	A <sub>5</sub>	2	3,2	37619b
4	2515	34.6	+43 6	8.8	9.6	G <sub>5</sub>	2	..	38718i	54	6183	34.8	-58 34	8.8	8.7	A <sub>0</sub>	5	..	23021b
5	2843	34.6	+23 15	8.7	9.7	K <sub>0</sub>	4	..	37720i	55	6021	34.8	-61 5	9.7	9.8	A <sub>2</sub>	1	..	37619b
6	2837	34.6	+11 3	9.1	10.1	K <sub>0</sub>	1	..	9475b	56	2940	34.8	-68 3	8.4	9.4	K <sub>0</sub>	3	..	14146b
7	4141	34.6	-10 12	9.7	10.2	F <sub>8</sub>	3	..	40584b	57	1912	34.8	-71 59	7.6	8.6	K <sub>0</sub>	7	..	14146b
8	4219	34.6	-13 17	9.2	9.3	A <sub>2</sub>	4	..	40584b	58	1645	34.8	-73 40	9.4	10.5	K <sub>2</sub>	1	..	14146b
9	4395	34.6	-17 12	9.48	10.48	K <sub>0</sub>	2	..	40295b	59	1481	34.8	-74 10	9.4	10.2	G <sub>5</sub>	2	..	14146b
10	4295	34.6	-20 38	9.47	11.0	G <sub>5</sub>	1	..	21931b	60	443	34.8	-85 52	9.1	9.9	G <sub>5</sub>	2	..	13458b
11	10316	34.6	-44 32	9.9	9.3	A <sub>0</sub>	5	..	19404b	61	2711	34.9	+35 0	6.19	7.19	K <sub>0</sub>	7	..	38498i
12	10315	34.6	-44 58	9.9	10.5	K <sub>2</sub>	1	..	19404b	62	3081	34.9	+9 27	8.3	8.7	F <sub>5</sub>	5	..	37689i
13	10269	34.6	-46 29	9.7	10.5	K <sub>2</sub>	1	..	39069b	63	4399	34.9	-17 44	9.4	10.6	K <sub>5</sub>	3	..	40295b
14	10270	34.6	-46 33	8.4	9.3	K <sub>2</sub>	2	..	39069b	64	4298	34.9	-20 52	9.7	9.6	A <sub>5</sub>	2	..	21931b
15	10205	34.6	-48 31	9.3	9.5	A <sub>5</sub>	3	..	39069b	65	4165	34.9	-21 17	8.2	8.5	K <sub>0</sub>	5	..	21931b
16	6643	34.6	-53 26	10.7	10.7	A	1	..	41517b	66	10988	34.9	-32 20	8.9	8.7	A <sub>5</sub>	6	..	40279b
17	6636	34.6	-54 59	var.	var.	G <sub>5</sub>	1	R	23021b	67	10426	34.9	-37 56	8.9	9.6	F <sub>8</sub>	4	..	14367b
18	3249	34.6	-64 22	8.8	9.2	F <sub>5</sub>	3	..	21785b	68	10198	34.9	-41 43	8.7	9.3	K <sub>2</sub>	3	..	19404b
19	3127	34.6	-65 38	9.6	9.6	A <sub>0</sub>	4	..	21785b	69	10196	34.9	-41 52	10.0	9.3	A <sub>0</sub>	4	..	19404b
20	2815	34.6	-66 12	8.1	8.6	F <sub>8</sub>	6	..	21785b	70	10275	34.9	-46 23	9.1	9.1	F <sub>8</sub>	3	..	39069b
21	2814	34.6	-66 25	10.4	10.5	A <sub>2</sub>	1	..	21785b	71	10225	34.9	-47 58	8.9	8.1	B <sub>9</sub>	5	..	39069b
22	1478	34.6	-74 36	9.6	9.7	A <sub>2</sub>	3	..	14146b	72	10212	34.9	-49 5	9.3	9.2	F <sub>0</sub>	3	..	39069b
23	2894	34.7	+38 53	8.9	9.4	F <sub>8</sub>	1	..	38718i	73	6862	34.9	-56 58	10.4	10.4	B <sub>9</sub>	3	0,2	23021b
24	2607	34.7	+31 53	7.7	7.8	A <sub>3</sub>	6	1,4	38719i	74	7154	34.9	-57 11	10.7	10.7	A <sub>0</sub>	1	..	23021b
25	2887	34.7	+10 18	9.0	10.0	K <sub>0</sub>	2	..	37689i	75	5183	34.9	-61 15	9.5	9.6	A <sub>2</sub>	1	..	37619b
26	3000	34.7	+7 19	8.5	8.8	F <sub>2</sub>	4	..	37689i	76	4779	34.9	-62 33	9.2	9.3	A <sub>5</sub>	2	..	19750b
27	4044	34.7	-8 37	9.4	10.2	G <sub>5</sub>	1	..	41242b	77	480	35.0	+80 47	6.47	7.25	G <sub>5</sub>	8	5,6-	37809i
28	4256	34.7	-14 12	9.9	10.4	F <sub>8</sub>	2	..	40584b	78	1758	35.0	+54 51	6.00	7.00	K <sub>0</sub>	8	..	38736i
29	4397	34.7	-17 31	9.7	10.8	K <sub>2</sub>	3	..	40295b	79	2204	35.0	+50 25	7.78	8.34	G <sub>0</sub>	5	2,1	38736i
30	4396	34.7	-17 54	9.7	10.8	K <sub>2</sub>	2	..	40295b	80	2493	35.0	+43 56	6.75	6.81	A <sub>2</sub>	9	..	38718i
31	11031	34.7	-25 16	8.15	8.2	F <sub>2</sub>	8	..	40714b	81	2797	35.0	+21 42	8.8	9.6	G <sub>5</sub>	2	..	37720i
32	11491	34.7	-29 5	9.9	9.1	G <sub>0</sub>	3	..	40714b	82	3079	35.0	-2 0	8.92	9.92	K <sub>0</sub>	1	..	41549b
33	10984	34.7	-32 49	8.4	8.8	K <sub>2</sub>	4	..	40279b	83	4258	35.0	-14 11	9.9	10.0	A <sub>3</sub>	2	..	40584b
34	10421	34.7	-37 47	10.2	10.2	G <sub>0</sub>	2	..	14367b	84	4135	35.0	-16 25	8.3	8.6	F <sub>2</sub>	5	..	40295b
35	10580	34.7	-38 56	10.9	10.7	F <sub>5</sub>	2	..	37631b	85	4136	35.0	-16 40	10.6	11.7	K <sub>2</sub>	1	..	40295b
36	10119	34.7	-43 12	11.0	10.2	A <sub>0</sub>	2	..	19404b	86	4127	35.0	-19 5	10.3	11.3	K <sub>0</sub>	1	..	40295b
37	10129	34.7	-45 12	8.62	9.0	A <sub>3</sub>	4	..	39069b	87	10498	35.0	-27 44	9.4	8.9	A <sub>0</sub>	4	..	40714b
38	6647	34.7	-53 52	10.3	10.3	A <sub>0</sub>	2	..	41517b	88	10668	35.0	-42 6	9.9	10.2	G	1	R	19404b
39	6861	34.7	-56 21	10.2	10.7	F <sub>8</sub>	3	3,2	23021b	89	10122	35.0	-43 27	10.6	10.2	A <sub>0</sub>	2	..	19404b
40	6019	34.7	-60 56	10.0	10.0	A <sub>0</sub>	1	..	37619b	90	9901	35.0	-49 41	8.9	8.4	B <sub>3</sub>	4	..	39069b
41	5178	34.7	-61 16	8.6	9.6	K <sub>0</sub>	1	..	37619b	91	7156	35.0	-57 17	10.4	10.4	A <sub>0</sub>	3	1,3	23021b
42	3250	34.7	-64 33	9.7	10.9	K <sub>5</sub>	2	..	21785b	92	7155	35.0	-57 48	7.3	9.0	Mb	5	R	23021b
43	2939	34.7	-67 9	9.0	10.1	K <sub>2</sub>	3	..	21785b	93	7155	35.0	-57 48	7.3	9.0	A <sub>3</sub>	5	..	23021b
44	2938	34.7	-67 46	8.3	8.3	B <sub>9</sub>	6	..	14146b	94	3251	35.0	-65 4	8.65	8.0	B <sub>8</sub>	7	..	21785b
45	514	34.7	-84 14	9.1	10.2	K <sub>2</sub>	1	..	43458b	95	2433	35.0	-69 34	9.9	10.0	A <sub>5</sub>	2	..	14146b
46	1064	34.8	+65 15	9.0	9.4	F <sub>5</sub>	2	..	37746i	96	..	35.0	-70 15	..	..	K <sub>0</sub>	1	..	14146b
47	2895	34.8	+39 33	8.9	9.9	K <sub>0</sub>	2	..	38718i	97	593	35.1	+77 6	8.0	8.6	G <sub>0</sub>	4	..	37809i
48	2691	34.8	+29 26	10.1	10.6	F <sub>8</sub>	2	..	5402m	98	2253	35.1	+47 8	5.78	6.06	F <sub>0</sub>	8	5,4-	38741i
49	2712	34.8	+26 4	8.1	8.9	G <sub>5</sub>	3	..	38470i	99	2814	35.1	+16 39	6.92	6.98	A <sub>2</sub>	5	0,5	37689i
50	3080	34.8	+9 19	8.5	9.3	G <sub>5</sub>	1	..	37689i	100	3060	35.1	+8 51	8.5	9.0	F <sub>8</sub>	3	..	37689i

## THE HENRY DRAPER CATALOGUE.

139800

15<sup>h</sup> 35<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
		m.	° ' "									m.	° ' "						
1	3067	35.1	+ 3 37	9.1	10.1	Ko	3	..	1685ob	51	2818	35.3	-66 32	9.8	9.8	Ao	4	..	21785b
2	3066	35.1	+ 2 53	8.6	9.6	Ko	7	..	1685ob	52	2817	35.3	-66 45	9.0	10.1	K2	4	..	21785b
3	4258	35.1	- 6 59	9.1	9.7	Go	1	..	41222b	53	2942	35.3	-67 41	9.6	10.7	K2	2	..	21785b
4	4143	35.1	-10 34	8.7	8.8	A2	6	..	40584b	54	1864	35.3	-72 45	9.6	9.6	B9	4	..	14146b
5	4137	35.1	-16 46	9.9	11.0	K2	2	..	40295b	55	1648	35.3	-73 5	10.5	10.5	Ao	1	..	14146b
6	4182	35.1	-19 33	9.9	10.2	Ko	2	..	21931b	56	2517	35.4	+43 2	9.0	9.6	Go	2	..	38718i
7	4167	35.1	-21 46	9.7	10.0	Go	2	..	21931b	57	2908	35.4	+40 42	9.5	10.1	Go	1	..	38718i
8	10338	35.1	-36 49	10.9	10.2	A2	2	0,2	14367b	58	2611	35.4	+33 13	8.9	9.9	Ko	2	..	38719i
9	9903	35.1	-49 27	9.1	8.7	Fo	4	..	39069b	59	2689	35.4	+30 32	8.6	9.8	K5	3	..	38719i
10	7157	35.1	-57 39	8.6	9.5	Ao	5	2,5	23021b	60	2455	35.4	+28 14	10.3	10.9	G	3	..	5402m
11	2434	35.1	-69 24	8.7	9.7	Ko	2	..	14146b	61	3054	35.4	+18 31	9.1	9.6	F8	2	..	3772oi
12	1862	35.1	-73 1	9.9	10.5	G	1	R	14146b	62	2875	35.4	+12 23	6.31	7.09	G5	7	..	37689i
13	481	35.2	+80 47	8.6	9.4	G5	4	..	37809i	63	3069	35.4	+ 2 56	9.5	10.6	K2	1	..	1685ob
14	2610	35.2	+32 1	8.6	9.1	F8	6	..	38719i	64	4260	35.4	-14 30	9.1	9.7	Go	3	..	40584b
15	2688	35.2	+29 56	var.	var.	F8	3	R	5402m	65	4129	35.4	-18 30	9.7	10.9	K5	1	..	40295b
16	3068	35.2	+ 3 11	9.1	9.9	G5	4	..	1685ob	66	4170	35.4	-21 24	9.9	9.9	F8	2	..	21931b
17	4046	35.2	- 8 47	7.9	8.9	Ko	6	..	41242b	67	11499	35.4	-28 59	7.57	8.6	Ma	5	..	40714b
18	4159	35.2	-15 40	9.4	10.2	G5	2	..	40584b	68	10432	35.4	-37 54	10.2	10.5	G5	2	..	37631b
19	4138	35.2	-16 59	9.46	9.54	A3	4	..	40295b	69	10288	35.4	-46 7	9.9	9.9	Ko	1	2,1	39069b
20	4183	35.2	-20 6	10.1	10.5	A2	2	..	21931b	70	10219	35.4	-48 22	8.0	9.2	K2	3	..	39069b
21	12446	35.2	-30 53	8.5	9.0	Ko	3	..	40701b	71	9909	35.4	-49 10	6.06	7.7	Ko	7	..	39069b
22	12173	35.2	-31 20	8.5	8.8	K5	1	..	40701b	72	6202	35.4	-58 13	9.8	9.8	Ao	2	..	37619b
23	10993	35.2	-32 43	9.6	10.2	Ko	1	..	40279b	73	6204	35.4	-59 2	9.8	9.8	B9	2	..	37619b
24	10340	35.2	-36 6	9.8	9.9	Go	4	0,1	37631b	74	1865	35.4	-72 41	10.0	10.5	F8	1	..	14146b
25	10096	35.2	-39 9	8.6	8.4	A3	5	..	41391b	75	2314	35.5	+48 47	8.2	9.4	K5	2	..	38736i
26	10129	35.2	-43 35	9.7	9.4	Ao	5	..	19404b	76	2694	35.5	+29 31	8.1	8.6	F8	5	..	38719i
27	10324	35.2	-44 12	9.7	9.3	B9	5	..	19404b	77	3083	35.5	+ 6 42	9.1	10.1	Ko	3	..	1685ob
28	10218	35.2	-48 54	7.02	8.7	K2	4	..	39069b	78	3053	35.5	+ 5 9	9.5	9.8	Fo	1	..	1685ob
29	9739	35.2	-50 44	10.3	9.5	A2	1	..	39069b	79	4049	35.5	- 8 40	8.3	8.9	Go	6	..	41242b
30	6653	35.2	-53 36	9.9	10.3	F5	1	..	41517b	80	4185	35.5	-19 23	10.1	10.2	G5	2	..	21931b
31	6675	35.2	-55 31	10.1	10.1	Ao	3	..	23021b	81	10502	35.5	-27 47	9.1	9.7	Ko	1	..	40714b
32	6246	35.2	-59 18	8.3	9.6	K5	4	..	37619b	82	11500	35.5	-28 52	8.2	8.6	Ko	6	..	40714b
33	6027	35.2	-60 54	8.7	9.8	Go	1	..	37619b	83	10487	35.5	-34 34	8.2	8.7	F2	6	..	40279b
34	4783	35.2	-62 37	9.2	9.2	Ao	2	..	1975ob	84	10433	35.5	-37 16	9.8	10.4	G5	1	..	37631b
35	3128	35.2	-65 58	10.1	10.1	B9	2	..	21785b	85	10290	35.5	-46 43	9.1	9.0	A3	4	..	39069b
36	905	35.3	+66 54	9.4	9.9	F8	3	..	38737i	86	9744	35.5	-50 51	8.3	8.9	Ko	2	..	19894b
37	2454	35.3	+27 57	8.8	9.6	G5	6	..	5402m	87	8764	35.5	-52 18	9.7	9.8	A2	1	..	41517b
38	..	35.3	+27 35	..	..	F8	2	..	5402m	88	6866	35.5	-56 19	10.1	10.7	Go	1	..	37619b
39	3110	35.3	+ 1 47	8.1	8.7	Go	7	..	1685ob	89	7160	35.5	-57 15	10.6	10.7	A2	2	..	23021b
40	2997	35.3	- 0 35	8.3	9.3	Ko	5	..	41549b	90	2435	35.5	-69 7	8.8	10.0	K5	2	..	14146b
41	3080	35.3	- 1 41	8.9	9.9	Ko	1	..	41549b	91	2665	35.6	+36 58	6.00	5.95	B8	..	R	56,92
42	3988	35.3	-11 56	9.2	10.0	G5	2	..	40584b	92	..	35.6	+36 58	5.07	5.02	..	..	..	..
43	12464	35.3	-24 4	8.2	8.0	F2	5	..	40714b	93	..	35.6	+29 15	..	..	Go	1	..	5402m
44	10500	35.3	-27 30	9.7	9.5	G5	3	..	40714b	94	2800	35.6	+21 30	8.7	9.8	K2	1	..	3772oi
45	10344	35.3	-36 47	10.6	10.2	A5	2	..	37631b	95	3084	35.6	+ 6 19	9.0	9.8	G5	3	..	1685ob
46	9396	35.3	-51 46	9.1	8.9	F8	3	..	19894b	96	3046	35.6	+ 4 29	8.4	8.7	Fo	7	..	1685ob
47	9395	35.3	-52 2	10.6	9.5	A	1	..	41517b	97	4136	35.6	- 5 19	8.30	9.30	Ko	2	..	41188b
48	6864	35.3	-56 15	10.2	10.7	F8	1	..	37619b	98	4050	35.6	- 8 25	8.3	9.1	G5	5	..	41242b
49	6200	35.3	-58 30	8.1	8.3	A2	7	0,7	23021b	99	12177	35.6	-31 31	8.0	8.5	F5	3	..	40701b
50	6199	35.3	-58 44	9.7	9.8	A2	2	..	37619b	100	9847	35.6	-40 30	8.9	9.4	G5	2	..	19404b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

139900

15<sup>h</sup> 35<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	9746	35.6	-51 0	8.0	8.0	B8	5	..	19894b	51	517	36.0	+81 6	6.97	7.97	Ko	5	5,4	37813i
2	8765	35.6	-53 0	9.1	9.5	Ao	2	..	41517b	52	2802	36.0	+21 41	8.1	9.1	Ko	4	..	37720i
3	5197	35.6	-61 50	8.0	8.9	K2	5	..	19750b	53	3070	36.0	+3 11	9.8	10.3	F8	2	..	16850b
4	2819	35.6	-66 33	8.9	10.0	K2	3	..	21785b	54	4161	36.0	-15 14	8.76	9.54	G5	2	..	40584b
5	1081	35.7	+64 46	8.80	9.58	G5	4	..	37746i	55	11507	36.0	-28 34	9.4	9.1	F8	3	..	40714b
6	2206	35.7	+50 45	5.94	6.72	G5	4	0,9	37316i	56	11006	36.0	-32 28	10.4	10.2	G5	1	..	40279b
7	2498	35.7	+44 12	8.8	9.6	G5	2	..	38718i	57	10658	36.0	-33 11	8.9	10.2	G5	2	..	40279b
8	3989	35.7	-11 33	8.7	10.1	Mb	2	..	40584b	58	10352	36.0	-36 37	10.6	10.5	F8	1	..	37631b
9	4226	35.7	-13 39	6.83	6.81	B9	5	..	40584b	59	10140	36.0	-43 14	10.1	10.2	A3	1	..	19404b
10	4186	35.7	-19 55	10.1	10.5	F8	1	..	21931b	60	10142	36.0	-43 55	7.4	8.4	K2	7	..	19404b
11	11877	35.7	-29 50	7.74	9.0	Ko	6	..	40714b	61	10333	36.0	-44 37	9.3	9.0	Ao	6	..	19404b
12	6676	35.7	-55 51	7.3	8.4	Ko	7	5,7	23021b	62	10236	36.0	-48 1	10.1	9.9	Ao	1	..	39069b
13	7163	35.7	-57 8	7.4	8.1	A2	8	1,9	37619b	63	10232	36.0	-48 32	8.5	9.2	K2	2	..	39069b
14	7161	35.7	-57 33	9.2	9.8	Ao	3	..	37619b	64	9920	36.0	-50 5	9.5	9.5	Ko	1	..	39069b
15	6257	35.7	-59 58	6.56	7.4	G5	9	..	19750b	65	9758	36.0	-50 37	10.1	9.2	Ao	1	..	19894b
16	6036	35.7	-60 39	8.7	9.8	K2	3	..	37619b	66	9411	36.0	-51 31	9.9	8.6	Fo	4	..	19894b
17	3658	35.7	-63 11	9.8	9.8	Ao	1	..	19750b	67	9410	36.0	-51 39	9.3	9.5	K2	1	..	19894b
18	2820	35.7	-66 41	9.6	10.4	G5	2	..	21785b	68	6218	36.0	-58 40	9.0	9.0	B8	4	..	37619b
19	1649	35.7	-73 44	7.7	7.7	B9	10	..	14146b	69	4796	36.0	-62 12	9.2	9.3	A2	2	..	19750b
20	2255	35.8	+47 15	6.92	8.10	K5	2	0,2	37316i	70	1890	36.1	+51 53	8.3	9.3	Ko	3	..	38736i
21	2091	35.8	+46 12	8.8	9.9	K2	1	..	38741i	71	2520	36.1	+43 1	8.2	9.6	Ma	3	..	38718i
22	2896	35.8	+39 44	8.82	9.89	K2	1	..	38718i	72	3054	36.1	+5 50	8.6	8.7	A3	7	..	16850b
23	3005	35.8	+7 11	8.5	9.5	Ko	4	..	13817b	73	3071	36.1	+3 36	10.5	11.0	F8	2	..	16850b
24	3085	35.8	+5 52	8.9	9.5	Go	3	..	16850b	74	4139	36.1	-5 40	8.1	9.3	K5	2	..	41188b
25	4130	35.8	-18 29	9.7	9.8	A2	3	..	40295b	75	4132	36.1	-18 27	9.4	9.5	A3	4	..	40295b
26	11038	35.8	-25 49	8.9	9.4	G5	3	..	40714b	76	4009	36.1	-22 43	8.5	8.4	Ao	7	..	21931b
27	12458	35.8	-30 24	8.9	10.0	Ko	2	R	40279b	77	12472	36.1	-23 59	7.42	7.9	A5	8	..	40714b
28	9848	35.8	-40 47	9.6	9.7	Ao	2	..	19404b	78	12185	36.1	-31 47	9.4	9.9	G5	2	..	40279b
29	10332	35.8	-44 40	8.9	8.4	Ao	7	..	19404b	79	10450	36.1	-35 26	7.8	8.7	Fo	6	..	40279b
30	10227	35.8	-48 42	9.7	9.2	F8	3	..	39069b	80	10441	36.1	-37 6	5.31	6.8	Ko	..	5,R	56,136
31	9915	35.8	-49 39	9.9	9.2	Ao	3	..	39069b	81	10106	36.1	-39 7	10.0	10.2	F8	3	..	37631b
32	9408	35.8	-51 6	9.5	8.9	Ao	3	..	19894b	82	10145	36.1	-43 10	9.3	10.2	Ko	2	..	19404b
33	8770	35.8	-52 43	9.8	9.8	Ao	1	..	41517b	83	10146	36.1	-45 36	9.2	9.0	Fo	4	..	39069b
34	7167	35.8	-57 23	9.8	9.8	Ao	4	0,4	23021b	84	10147	36.1	-45 45	7.4	8.4	Ma	4	..	39069b
35	2112	35.8	-70 38	8.7	9.9	K5	3	..	14146b	85	10233	36.1	-48 33	8.7	8.6	A5	5	..	39069b
36	840	35.9	+70 46	9.4	10.4	Ko	1	..	38737i	86	9761	36.1	-50 44	9.2	9.0	F5	1	..	19894b
37	2317	35.9	+45 26	8.1	8.4	Fo	4	..	38718i	87	7172	36.1	-58 1	10.3	10.3	B9	2	..	37619b
38	2519	35.9	+42 55	9.0	10.0	Ko	1	..	38718i	88	6041	36.1	-60 41	8.9	10.0	K2	1	..	37619b
39	3000	35.9	+19 0	7.62	7.68	A2	6	..	37751i	89	4800	36.1	-62 32	9.2	9.2	B9	3	..	19750b
40	4312	35.9	-12 23	10.1	10.6	F8	1	..	40584b	90	1916	36.1	-71 47	8.1	8.5	F5	7	..	14146b
41	4007	35.9	-22 57	8.1	8.7	F8	7	..	21931b	91	1102	36.1	-76 53	7.6	8.7	K2	3	..	40252b
42	10350	35.9	-36 43	9.2	10.5	K5	1	..	14367b	92	1820	36.2	+56 13	7.22	7.20	B9	7	..	38736i
43	10439	35.9	-37 16	10.6	9.6	Ao	2	..	41391b	93	4034	36.2	-2 19	8.0	8.8	G5	5	..	41188b
44	10593	35.9	-38 24	11.1	10.8	A2	2	..	37631b	94	3991	36.2	-11 53	9.9	10.0	A3	2	..	40584b
45	10683	35.9	-42 41	10.1	10.2	Ko	2	..	21781b	95	4143	36.2	-16 36	10.1	10.6	F8	3	..	40295b
46	10145	35.9	-45 44	9.7	9.9	K2	1	..	39069b	96	4133	36.2	-19 8	8.3	8.3	F8	7	..	21931b
47	9755	35.9	-50 48	7.9	7.9	B9	6	..	19894b	97	4188	36.2	-19 21	4.96	6.9	K5	..	R	56,92
48	6660	35.9	-53 44	10.4	10.4	Ao	2	..	41517b	98	11509	36.2	-28 17	10.4	9.5	A3	1	..	40714b
49	6038	35.9	-60 49	8.8	9.8	Ko	1	..	37619b	99	10217	36.2	-41 17	9.6	9.9	K2	1	..	19404b
50	1913	35.9	-71 46	8.9	8.9	Ao	7	..	14146b	100	10241	36.2	-47 38	10.1	9.3	Ao	2	..	39069b

THE HENRY DRAPER CATALOGUE.

140000

15<sup>h</sup> 36<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10237	36.2	-48 8	10.3	9.8	Ao	1	..	39069b	51	2716	36.5	+26 29	9.9	10.5	Go	4	..	5402m
2	9417	36.2	-51 19	7.4	7.7	K <sub>2</sub>	7	..	19894b	52	4316	36.5	-13 8	9.9	9.9	Ao	1	..	40584b
3	7175	36.2	-57 50	10.4	10.4	Ao	1	..	37619b	53	4144	36.5	-17 3	9.20	10.20	Ko	3	..	40295b
4	4804	36.2	-62 53	7.5	7.6	A <sub>2</sub>	9	..	19750b	54	12194	36.5	-31 26	10.4	9.6	A <sub>2</sub>	2	..	40279b
5	1915	36.2	-72 0	9.1	9.7	Go	2	..	14146b	55	11016	36.5	-32 32	10.6	9.3	A <sub>3</sub>	4	..	40279b
6	3083	36.3	+ 9 37	8.0	8.8	G <sub>5</sub>	6	..	37689i	56	10355	36.5	-36 43	9.6	9.9	A <sub>3</sub>	3	..	14367b
7	4172	36.3	-21 35	8.2	9.0	Ko	5	..	21931b	57	8785	36.5	-52 23	9.5	9.5	Ao	2	..	19894b
8	10494	36.3	-34 23	4.82	4.70	B <sub>5</sub>	..	R	28,210	58	6680	36.5	-55 8	9.77	10.4	A <sub>5</sub>	2	..	21734b
9	10688	36.3	-42 51	9.1	9.3	Ko	4	0,2	21781b	59	6237	36.5	-58 53	8.4	9.8	Ko	3	..	37619b
10	10338	36.3	-44 15	9.9	9.9	Go	2	5,2	21781b	60	6269	36.5	-59 39	8.9	9.3	G <sub>5</sub>	3	..	37619b
11	10336	36.3	-44 24	9.5	9.6	K <sub>2</sub>	4	..	19404b	61	3662	36.5	-63 19	8.6	9.8	K <sub>5</sub>	2	..	19750b
12	10152	36.3	-45 42	10.1	9.9	Ao	1	..	39069b	62	3663	36.5	-63 25	8.9	8.9	B <sub>8</sub>	4	..	19750b
13	9763	36.3	-50 17	9.1	9.6	K <sub>5</sub>	1	..	39069b	63	2821	36.5	-66 8	9.9	10.0	A <sub>2</sub>	3	..	21785b
14	9418	36.3	-51 40	10.1	9.2	F <sub>8</sub>	1	..	19894b	64	1600	36.6	+57 47	7.60	8.95	Mb	5	..	38764i
15	5206	36.3	-61 41	9.2	9.8	K <sub>2</sub>	1	..	19750b	65	2762	36.6	+31 47	8.8	9.6	G <sub>5</sub>	4	..	38719i
16	4805	36.3	-62 30	8.2	9.3	K <sub>2</sub>	1	..	19750b	66	2457	36.6	+28 48	9.9	10.9	Ko	1	..	5402m
17	3130	36.3	-65 16	9.3	9.8	F <sub>8</sub>	3	..	21785b	67	2522	36.6	+27 13	9.5	10.5	Ko	4	..	5402m
18	3131	36.3	-65 26	7.9	8.9	Ko	8	..	21785b	68	3136	36.6	+20 39	9.2	9.8	G	1	..	37720i
19	2115	36.3	-70 23	8.1	9.1	K	6	..	14146b	69	..	36.6	-10 49	8.5	9.0	F <sub>8</sub>	3	R	41242b
20	2114	36.3	-70 25	8.3	9.1	G <sub>5</sub>	6	..	14146b	70	4146	36.6	-10 49	8.5	9.0	F <sub>8</sub>	3	R	41242b
21	1917	36.3	-71 21	9.8	10.3	F <sub>8</sub>	1	..	14146b	71	4164	36.6	-16 4	9.4	10.4	Ko	2	..	40584b
22	1868	36.3	-72 8	8.3	8.3	B <sub>8</sub>	7	..	14146b	72	4190	36.6	-19 10	8.9	9.3	G <sub>5</sub>	3	..	21931b
23	1523	36.4	+61 44	7.9	8.5	Go	4	2,4	37746i	73	4191	36.6	-19 33	9.4	9.3	F <sub>5</sub>	3	..	21931b
24	1598	36.4	+57 50	8.1	9.1	Ko	5	..	38764i	74	11017	36.6	-32 7	10.4	10.0	Go	2	..	40279b
25	2499	36.4	+44 38	8.22	9.00	G <sub>5</sub>	3	..	38718i	75	10497	36.6	-34 23	8.6	9.0	Ao	3	..	40279b
26	2674	36.4	+34 35	8.2	9.2	Ko	2	..	38498i	76	10450	36.6	-37 36	8.6	9.0	F <sub>5</sub>	4	..	41391b
27	2816	36.4	+16 21	5.97	6.75	G <sub>5</sub>	6	0,8 R	37751i	77	10108	36.6	-39 10	10.9	10.8	G <sub>5</sub>	2	..	37631b
28	3112	36.4	+ 1 34	10.5	11.3	G <sub>5</sub>	1	..	16850b	78	9858	36.6	-40 44	8.3	9.0	Ko	4	..	19404b
29	4143	36.4	- 6 7	7.42	8.42	Ko	6	..	41188b	79	9421	36.6	-51 35	7.6	8.0	B <sub>9</sub>	9	..	19894b
30	4052	36.4	- 8 19	8.5	8.9	F <sub>5</sub>	6	..	41242b	80	6667	36.6	-54 0	7.4	8.3	A <sub>3</sub>	7	..	21734b
31	4315	36.4	-12 26	8.7	9.7	Ko	4	..	40584b	81	3133	36.6	-65 10	8.45	8.9	F <sub>8</sub>	6	..	21785b
32	4163	36.4	-15 15	8.95	9.95	Ko	2	..	40584b	82	2549	36.6	-68 9	9.7	9.7	Ao	2	1,2	21785b
33	4307	36.4	-21 0	9.66	9.9	F <sub>8</sub>	1	..	21931b	83	2548	36.6	-68 36	9.1	9.1	Ao	3	..	14146b
34	11882	36.4	-29 5	9.7	9.4	K <sub>5</sub>	2	..	40714b	84	563	36.7	+76 46	7.52	7.58	A <sub>2</sub>	6	..	37809i
35	12470	36.4	-30 10	9.68	9.9	G <sub>5</sub>	2	..	40279b	85	804	36.7	+68 57	9.7	10.5	G <sub>5</sub>	2	..	38737i
36	12190	36.4	-31 37	10.2	10.2	Ko	1	..	40279b	86	2687	36.7	+37 51	7.06	8.24	K <sub>5</sub>	5	..	38718i
37	12192	36.4	-31 52	7.37	7.7	B <sub>8</sub>	8	..	40279b	87	2692	36.7	+30 15	7.61	8.68	K <sub>2</sub>	6	..	38719i
38	11013	36.4	-32 53	10.9	9.9	A <sub>3</sub>	3	..	40279b	88	3000	36.7	- 0 29	10.5	11.6	K <sub>2</sub>	1	..	16850b
39	10691	36.4	-42 26	9.0	9.1	Ao	5	..	19404b	89	..	36.7	-15 49	..	..	A <sub>2</sub>	2	..	40584b
40	10300	36.4	-46 48	9.9	9.7	Ao	3	..	39069b	90	12240	36.7	-24 56	9.2	9.7	G <sub>5</sub>	1	..	40284b
41	6651	36.4	-54 40	var.	var.	Md	..	0,4 R	56,136	91	10227	36.7	-41 25	10.2	9.9	G <sub>5</sub>	1	..	19404b
42	6679	36.4	-55 51	7.0	7.6	B <sub>9</sub>	9	1,9	37619b	92	10303	36.7	-46 58	10.1	9.9	Ao	1	..	39069b
43	6872	36.4	-56 48	7.7	8.3	B <sub>8</sub>	8	1,9	37619b	93	9935	36.7	-49 47	9.3	9.2	Ao	2	..	39069b
44	6268	36.4	-59 55	8.14	8.6	F <sub>2</sub>	5	..	19750b	94	8788	36.7	-52 39	8.3	8.9	Ko	3	..	19894b
45	4811	36.4	-62 49	8.2	9.2	Ko	4	..	19750b	95	6670	36.7	-53 43	10.1	10.7	G	1	..	41517b
46	3661	36.4	-63 26	9.2	9.2	Ao	5	..	19750b	96	6274	36.7	-59 26	8.6	8.9	B <sub>8</sub>	5	..	37619b
47	2441	36.4	-69 33	8.6	8.9	F <sub>2</sub>	5	..	14146b	97	6053	36.7	-60 59	7.12	7.6	F <sub>2</sub>	9	..	19750b
48	2697	36.5	+29 47	9.6	10.2	Go	3	..	5402m	98	2550	36.7	-68 19	9.1	10.3	K <sub>5</sub>	1	..	14146b
49	2456	36.5	+28 6	8.7	9.7	Ko	3	..	5402m	99	521	36.8	+78 17	9.0	10.0	Ko	2	..	37809i
50	..	36.5	+27 32	..	..	Ko	2	..	5402m	100	1627	36.8	+60 19	9.0	10.1	K <sub>2</sub>	2	..	38764i

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

140100

15<sup>h</sup> 36<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2666	36.8	+37 21	6.97	6.97	Ao	9	..	38718i	51	6246	37.0	-58 30	9.0	9.8	G5	2	..	37619b
2	3056	36.8	+5 26	9.3	9.8	F8	1	..	1685ob	52	2444	37.0	-69 27	8.9	9.9	Ko	2	..	14146b
3	11043	36.8	-25 54	9.9	9.5	Go	1	..	40085b	53	1919	37.0	-71 55	8.5	9.5	Ko	3	..	14146b
4	10514	36.8	-27 53	9.5	9.2	G5	3	..	40714b	54	1768	37.1	+55 12	8.6	9.0	F5	2	..	38736i
5	12478	36.8	-30 46	9.1	9.6	Fo	3	..	40279b	55	2898	37.1	+39 2	7.8	9.0	K5	3	..	38718i
6	10453	36.8	-37 44	9.6	9.9	Ao	3	..	14367b	56	2694	37.1	+30 10	9.1	9.7	Go	4	..	38719i
7	10110	36.8	-39 40	9.8	10.2	F8	2	..	37631b	57	2873	37.1	+22 39	7.9	9.0	K2	3	..	3772oi
8	10243	36.8	-48 54	9.2	8.9	B9	4	..	39069b	58	3137	37.1	+20 26	9.1	10.1	Ko	1	..	3772oi
9	9429	36.8	-51 24	8.6	8.3	B9	7	..	19894b	59	3138	37.1	+20 0	4.49	4.55	A2	..	2, R	56,92
10	7182	36.8	-57 9	10.0	10.1	A2	3	0,3	23021b	60	2982	37.1	+13 10	5.26	5.26	Aop	..	R	56,92
11	6243	36.8	-58 48	8.0	8.0	A2	7	..	37619b	61	3007	37.1	+7 23	8.5	9.3	G5	2	..	37689i
12	5211	36.8	-61 27	9.6	9.6	Ao	2	0,1	37619b	62	3390	37.1	-0 6	9.5	10.1	Go	2	..	1685ob
13	4827	36.8	-62 15	9.0	9.0	B9	3	..	1975ob	63	3083	37.1	-1 43	9.1	9.5	F5	1	..	41188b
14	2947	36.8	-67 8	9.5	9.5	B8	5	..	21785b	64	4165	37.1	-15 42	7.04	7.60	Go	9	..	40584b
15	2442	36.8	-69 11	9.9	9.9	Ao	2	..	14146b	65	4194	37.1	-19 56	9.4	10.5	K2	1	..	21931b
16	2117	36.8	-70 30	9.6	9.7	A2	3	..	14146b	66	4176	37.1	-21 36	9.4	9.9	Go	2	..	21931b
17	1583	36.9	+58 14	6.46	7.46	Ko	8	..	38767i	67	12481	37.1	-23 57	7.9	10.0	K5	3	..	40284b
18	2617	36.9	+33 5	8.9	9.5	Go	4	..	38719i	68	12242	37.1	-24 50	8.5	8.8	A2	5	..	40714b
19	2699	36.9	+29 33	8.6	9.6	Ko	3	..	38719i	69	12241	37.1	-24 55	8.7	9.5	Ko	1	..	40284b
20	2458	36.9	+28 50	10.1	10.7	Go	2	..	5402m	70	10996	37.1	-26 28	10.4	9.5	Ko	2	..	40085b
21	3002	36.9	+19 28	8.7	8.8	A2	3	..	3772oi	71	10520	37.1	-27 50	8.9	8.9	Ko	4	..	40714b
22	3389	36.9	+0 46	7.39	7.39	Ao	3	0,9	38432i	72	10664	37.1	-33 5	7.57	8.4	Ko	7	..	40279b
23	4083	36.9	-7 20	8.5	9.0	F8	6	..	41242b	73	10348	37.1	-44 36	10.1	9.6	Ao	3	..	21781b
24	4082	36.9	-7 36	8.5	9.7	K5	3	..	41242b	74	10309	37.1	-46 39	9.7	10.5	K2	1	..	42502b
25	11022	36.9	-32 8	9.8	9.7	G5	3	..	40279b	75	8796	37.1	-52 46	8.2	8.1	B9	7	..	19894b
26	11024	36.9	-33 2	9.3	9.3	F8	4	..	40279b	76	6654	37.1	-54 47	7.67	8.1	Fo	8	0,8	37619b
27	10499	36.9	-34 55	8.58	8.8	F2	5	..	40279b	77	6250	37.1	-58 22	8.3	8.3	A2	7	..	37619b
28	10608	36.9	-38 23	10.4	11.4	Ko	1	..	37631b	78	6252	37.1	-58 22	8.0	8.6	F8	6	..	37619b
29	10607	36.9	-38 38	8.9	9.9	F8	3	..	14367b	79		37.1	-58 22			A5			
30	9937	36.9	-49 54	6.89	7.7	Fo	7	0,8	19894b	80	5218	37.1	-61 36	9.5	9.5	Ao	2	..	37619b
31	6672	36.9	-53 57	9.1	9.0	B9	4	..	21734b	81	4834	37.1	-63 2	9.5	9.6	A2	2	..	1975ob
32	6653	36.9	-54 41	10.4	10.4	Ao	2	1,2	37619b	82	3135	37.1	-65 6	10.00	10.7	G5	1	..	21785b
33	6874	36.9	-56 30	8.6	9.2	Ao	6	0,6	37619b	83	3134	37.1	-65 51	10.7	10.8	A3	2	..	21785b
34	6245	36.9	-58 19	9.7	9.8	A2	1	..	37619b	84	2552	37.1	-68 27	8.9	9.7	G5	1	..	14146b
35	5213	36.9	-61 27	8.9	10.1	K5	1	..	37619b	85	1871	37.1	-72 36	8.5	8.9	F5	4	..	14146b
36	3665	36.9	-63 44	9.5	9.5	Ao	3	..	1975ob	86	1656	37.1	-74 2	9.1	9.9	G5	2	..	14146b
37	1066	37.0	+65 16	9.6	10.4	G5	2	..	37746i	87	2844	37.2	+10 53	7.9	8.9	Ko	3	..	37689i
38	2318	37.0	+45 9	7.47	7.81	F2	5	..	38718i	88	3075	37.2	+3 50	10.1	11.2	K2	1	..	1685ob
39	2501	37.0	+44 11	7.12	7.40	Fo	8	..	38718i	89	3115	37.2	+0 59	10.5	11.1	Go	1	..	1685ob
40	2912	37.0	+39 51	9.9	11.1	K5	2	..	38718i	90	3001	37.2	-1 5	8.3	9.3	Ko	5	E	1685ob
41	3057	37.0	+5 1	9.5	10.3	G5	2	..	1685ob	91	4137	37.2	-18 41	10.6	10.7	A3	2	..	3776ob
42	2985	37.0	+2 14	9.3	9.7	F5	3	..	1685ob	92	11047	37.2	-25 6	7.16	7.9	Fo	9	..	40714b
43	4136	37.0	-18 17	8.1	9.3	K5	4	..	40295b	93	11516	37.2	-28 53	8.9	8.9	Ko	3	..	40714b
44	10516	37.0	-27 39	8.7	8.5	F2	6	..	40714b	94	12484	37.2	-30 13	7.38	7.7	Ao	8	..	40714b
45	10360	37.0	-36 51	8.6	9.9	Mb	2	..	41391b	95	10666	37.2	-33 10	8.9	8.7	Ao	4	..	40279b
46	10308	37.0	-46 10	9.5	9.6	Ao	3	..	42502b	96	10456	37.2	-37 26	9.5	10.2	Ko	1	..	14367b
47	10247	37.0	-48 54	9.2	8.9	B9	4	..	39069b	97	10116	37.2	-39 9	7.61	8.0	Ao	7	..	41391b
48	6681	37.0	-55 12	9.17	8.9	B9	6	..	21734b	98	10236	37.2	-41 41	8.2	8.1	Ao	7	..	19404b
49	7183	37.0	-57 19	9.5	10.7	K5	1	..	37619b	99	10238	37.2	-41 56	9.8	9.9	Ao	3	..	19404b
50	7184	37.0	-57 35	9.5	9.5	B8	5	3,4	23021b	100	6655	37.2	-54 15	8.7	9.9	G5	3	..	21734b



## THE HENRY DRAPER CATALOGUE.

140200

15<sup>h</sup> 37<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6683	37.2	-55 27	9.8	9.8	Ao	3	..	21734b	51	2208	37.5	+50 9	8.8	9.8	Ko	1	..	38766i
2	6684	37.2	-55 46	10.4	10.4	B9	2	0,2	23021b	52	2623	37.5	+41 3	8.6	8.9	Fo	4	..	38718i
3	6876	37.2	-56 36	8.4	9.2	Ko	6	0,5	37619b	53	2460	37.5	+28 19	8.1	9.3	K5	3	..	38719i
4	6255	37.2	-58 57	9.0	9.8	Fo	2	..	37619b	54	2893	37.5	+9 58	7.62	8.04	F5	6	..	37689i
5	3257	37.2	-64 35	10.4	10.4	B8	5	..	21785b	55	3059	37.5	+5 21	8.4	8.4	Ao	4	..	13817b
6	3258	37.2	-65 0	9.7	9.8	A2	2	..	21785b	56	3116	37.5	+1 12	9.5	10.5	Ko	1	..	16850b
7	2445	37.2	-69 23	9.5	9.5	A	2	..	14146b	57	4406	37.5	-18 2	9.7	10.8	K2	1	..	40300b
8	2317	37.3	+48 23	7.70	8.12	F5	7	3,1	38741i	58	4309	37.5	-20 48	8.90	9.0	Go	4	..	21931b
9	2846	37.3	+11 18	8.1	8.7	Go	4	..	37689i	59	11519	37.5	-28 15	9.7	8.5	Fo	6	..	40714b
10	2892	37.3	+10 37	9.0	9.6	Go	2	..	37689i	60	10506	37.5	-35 3	9.53	9.9	F5	4	..	40279b
11	3953	37.3	-4 49	8.5	9.7	K5	1	..	41188b	61	10468	37.5	-35 59	9.2	9.9	Go	3	..	14367b
12	12245	37.3	-24 21	10.2	8.8	Ao	3	..	40284b	62	10244	37.5	-41 26	10.9	9.6	A3	2	..	19404b
13	11000	37.3	-26 9	9.7	8.8	F5	4	..	40714b	63	10316	37.5	-47 5	9.2	9.3	A2	3	..	39069b
14	11001	37.3	-26 37	10.2	9.5	F5	2	..	40085b	64	10268	37.5	-47 40	9.0	9.3	Go	1	..	39069b
15	12205	37.3	-31 18	10.2	10.0	G5	1	..	40279b	65	7192	37.5	-57 59	8.8	9.9	Ma	3	..	37619b
16	12207	37.3	-31 42	10.2	9.3	Fo	4	..	40279b	66	2822	37.5	-66 40	10.2	10.7	F8	2	..	21785b
17	10504	37.3	-34 42	9.6	9.9	A2	2	..	40279b	67	3078	37.6	+3 48	8.7	9.7	Ko	4	..	16850b
18	10361	37.3	-37 0	9.2	10.5	K5	1	..	41391b	68	4319	37.6	-12 10	9.4	9.8	F5	2	..	40584b
19	10118	37.3	-39 10	8.9	9.0	Go	4	5,2	14367b	69	4320	37.6	-12 44	6.76	7.32	Go	10	..	40584b
20	10161	37.3	-43 48	7.6	8.2	Ao	8	..	19404b	70	4232	37.6	-13 14	8.1	8.9	G5	5	..	40584b
21	9439	37.3	-51 54	9.7	9.2	Ao	3	..	19894b	71	10166	37.6	-43 17	10.1	9.9	Ao	4	0,3	21781b
22	9438	37.3	-52 3	9.7	8.9	Ao	4	..	19894b	72	10168	37.6	-43 38	10.6	10.2	A2	2	..	21781b
23	6674	37.3	-54 4	8.6	8.9	B8	5	..	21734b	73	10162	37.6	-45 27	9.3	9.0	A2	4	E	21781b
24	6656	37.3	-54 33	9.3	10.7	Mb	1	5,1	37619b	74	9787	37.6	-50 28	6.63	7.5	A2	8	..	19894b
25	6285	37.3	-59 7	9.8	9.8	A	3	R	37619b	75	8811	37.6	-52 31	9.2	9.2	Ao	3	..	19894i
26	6062	37.3	-60 23	9.7	9.8	A2	2	..	37619b	76	6658	37.6	-54 37	10.4	10.4	Ao	2	..	21734b
27	806	37.4	+69 36	5.86	6.86	Ko	7	..	37752i	77	3262	37.6	-64 47	9.8	9.8	B8	3	..	21785b
28	2622	37.4	+41 15	8.4	9.0	Go	2	..	38718i	78	3136	37.6	-65 33	10.5	10.5	Ao	3	..	21785b
29	2688	37.4	+38 33	8.14	8.64	F8	5	..	38718i	79	2823	37.6	-66 32	10.7	10.7	Ao	2	..	21785b
30	2524	37.4	+26 51	9.9	10.4	F8	3	..	5402m	80	2526	37.7	+27 14	9.5	10.0	F8	3	..	5402m
31	2720	37.4	+26 24	9.2	10.2	Ko	3	..	5402m	81	4058	37.7	-8 49	8.9	9.7	G5	2	..	41242b
32	3059	37.4	+18 47	5.80	5.88	A3	..	1,7 R	56,92	82	4211	37.7	-9 32	9.4	10.4	Ko	1	..	41242b
33	3066	37.4	+8 8	7.27	7.83	Go	6	..	37689i	83	4149	37.7	-10 36	7.26	7.68	F5	8	R	41242b
34	3077	37.4	+3 38	9.3	10.3	Ko	2	..	16850b	84	12488	37.7	-30 45	9.2	9.9	K2	2	..	40279b
35	3076	37.4	+3 31	9.5	10.3	G5	3	..	16850b	85	10245	37.7	-41 30	6.31	7.1	Ao	7	..	43284b
36	4168	37.4	-16 0	10.1	11.1	Ko	2	5,1	40300b	86	10172	37.7	-43 45	7.6	9.0	Ko	5	..	19404b
37	4405	37.4	-17 23	9.7	10.7	Ko	1	..	40300b	87	10356	37.7	-44 16	8.9	9.0	Ao	6	..	19404b
38	10521	37.4	-27 26	9.2	8.8	A3	5	..	40714b	88	9446	37.7	-51 53	10.3	8.9	B8	3	..	19894b
39	11518	37.4	-28 15	10.0	9.2	Go	3	..	40085b	89	8816	37.7	-52 7	8.5	9.2	K2	2	..	19894b
40	11898	37.4	-29 21	9.1	9.6	G5	3	..	40714b	90	6687	37.7	-55 41	8.7	9.0	A3	4	1,4	23021b
41	10466	37.4	-35 9	8.98	9.3	F8	4	..	40279b	91	4849	37.7	-62 50	8.3	8.3	B9	6	..	19750b
42	10617	37.4	-38 47	8.6	9.3	Go	4	..	14367b	92	1658	37.7	-73 57	9.5	9.6	A2	4	..	14146b
43	10165	37.4	-43 19	8.3	9.0	A3	6	..	19404b	93	1490	37.7	-74 41	8.6	8.7	A3	6	..	14146b
44	9781	37.4	-50 42	8.6	8.4	Ao	4	..	19894b	94	1053	37.7	-78 24	7.7	7.7	Ao	2	..	40252b
45	9779	37.4	-50 45	8.0	8.3	Go	3	..	19894b	95	807	37.8	+69 12	9.7	9.8	A2	2	..	38737i
46	6263	37.4	-59 0	8.9	10.0	K2	1	..	37619b	96	1769	37.8	+55 17	8.8	9.6	G5	2	..	38736i
47	6289	37.4	-59 49	8.9	9.5	Go	3	..	37619b	97	2901	37.8	+38 53	var.	var.	Mb	2	R	38718i
48	4838	37.4	-62 7	8.2	9.2	Ko	3	..	19750b	98	2764	37.8	+31 14	9.1	10.1	Ko	1	..	38719i
49	3260	37.4	-64 52	9.5	9.5	B8	3	..	21785b	99	3140	37.8	+20 30	8.1	8.4	Fo	3	..	37751i
50	915	37.5	+66 6	7.06	8.06	Ko	7	..	37746i	100	3061	37.8	+5 28	8.4	8.4	Ao	5	..	13817b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

140300

15<sup>h</sup> 37<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4266	37.8	-14 43	6.44	7.44	Ko	10	..	40584b	51	10167	38.0	-45 12	9.16	9.3	F8	3	..	21781b
2	4149	37.8	-16 22	10.1	11.1	Ko	1	..	40300b	52	10278	38.0	-47 51	9.1	9.3	F8	2	..	39069b
3	4138	37.8	-18 17	10.6	11.2	Go	2	..	40300b	53	9961	38.0	-49 30	8.4	8.6	B8	4	..	39069b
4	12214	37.8	-32 1	8.1	9.0	K5	4	..	40279b	54	8827	38.0	-52 15	8.0	9.5	K5	1	..	19894b
5	10359	37.8	-44 39	9.5	9.1	Ao	6	..	21781b	55	6681	38.0	-53 7	7.8	8.9	Ko	5	..	19894b
6	10163	37.8	-45 12	9.76	9.6	Ao	4	..	21781b	56	6880	38.0	-56 9	8.9	8.9	B9	5	1,5	37619b
7	10323	37.8	-46 7	9.5	9.6	A2	2	..	42502b	57	6881	38.0	-56 49	9.1	10.1	Ko	3	0,3	37619b
8	10274	37.8	-47 24	9.9	9.6	A2	2	..	39069b	58	5233	38.0	-61 11	9.7	9.8	A3	1	..	37619b
9	9958	37.8	-49 18	8.4	9.3	Ko	2	..	39069b	59	4854	38.0	-63 2	8.4	9.5	K2	1	..	19750b
10	8821	37.8	-52 39	9.3	9.3	Ao	2	..	19894b	60	3264	38.0	-64 6	7.8	7.8	B9	7	..	21785b
11	6689	37.8	-55 40	8.0	8.1	Ao	6	0,6	23021b	61	3265	38.0	-65 0	9.4	9.5	A3	4	..	21785b
12	6275	37.8	-58 44	8.6	8.7	Ao	5	..	37619b	62	2953	38.0	-67 24	10.3	10.9	Go	2	..	21785b
13	4850	37.8	-62 14	8.6	8.6	B8	5	..	19750b	63	463	38.1	+82 36	6.92	7.20	Fo	6	5,7	37240i
14	3670	37.8	-63 18	8.8	9.8	Ko	3	..	19750b	64	2669	38.1	+37 22	7.9	8.0	A2	7	..	38718i
15	2446	37.8	-69 43	8.7	9.7	Ko	2	..	14146b	65	2622	38.1	+33 41	9.5	10.5	Ko	2	..	38719i
16	867	37.8	-79 6	7.2	7.2	Ao	7	..	13442b	66	2721	38.1	+26 49	9.6	10.4	G5	3	..	5402m
17	470	37.9	+79 32	8.2	8.8	Go	4	..	37809i	67	2805	38.1	+20 55	8.5	9.6	K2	1	..	37751i
18	909	37.9	+67 32	9.4	9.8	F5	2	..	38737i	68	3012	38.1	+7 1	8.9	9.5	Go	5	..	13817b
19	2765	37.9	+31 47	10.1	10.9	G5	2	..	38719i	69	4214	38.1	-9 34	9.9	10.4	F8	1	..	41242b
20	3060	37.9	+18 32	7.87	8.29	F5	3	..	37751i	70	4213	38.1	-9 49	7.71	8.13	F5	7	..	41242b
21	2881	37.9	+12 5	9.3	9.6	F	1	..	37689i	71	4409	38.1	-17 30	10.3	11.1	G5	1	..	40300b
22	3089	37.9	+9 50	8.67	9.17	F8	2	..	37689i	72	4408	38.1	-17 38	10.3	10.4	A2	3	..	40300b
23	3088	37.9	+9 20	9.1	9.9	G5	1	..	37689i	73	10525	38.1	-27 46	8.3	9.2	K5	2	..	40714b
24	3051	37.9	+4 25	8.1	8.7	Go	7	..	16850b	74	11045	38.1	-33 0	10.2	9.7	G5	2	..	40279b
25	3120	37.9	+1 6	10.5	10.8	F	1	..	16850b	75	10467	38.1	-37 49	10.4	10.9	Ko	1	..	37631b
26	3955	37.9	-5 6	9.15	9.93	G5	2	..	41188b	76	10726	38.1	-42 32	10.3	10.0	Ao	3	..	21781b
27	4321	37.9	-12 49	9.4	10.6	K5	1	..	40584b	77	8831	38.1	-53 1	8.8	8.4	A2	4	..	19894b
28	12489	37.9	-30 24	7.48	8.5	K2	5	..	40714b	78	7199	38.1	-57 20	9.1	9.6	A2	5	0,4	23021b
29	12215	37.9	-31 17	6.84	8.4	Ko	9	..	40279b	79	7200	38.1	-58 2	9.6	9.6	B9	4	..	37619b
30	10510	37.9	-34 58	8.78	9.9	K5	1	..	40279b	80	6297	38.1	-59 58	9.2	9.6	Go	3	..	37619b
31	10623	37.9	-38 5	8.9	10.2	Ao	3	..	14367b	81	2954	38.1	-67 50	9.5	9.5	Ao	2	..	21785b
32	10165	37.9	-45 56	9.0	9.0	A5	5	..	42502b	82	2447	38.1	-69 37	8.8	10.0	K5	2	..	14146b
33	10267	37.9	-48 47	9.3	8.7	Ao	3	..	39069b	83	1895	38.2	+52 13	9.4	9.9	F8	1	..	38766i
34	8824	37.9	-52 39	9.2	9.2	Ao	3	..	19894b	84	2697	38.2	+30 50	8.9	9.5	Go	3	..	38719i
35	6660	37.9	-54 49	10.0	10.8	G5	2	..	21734b	85	2695	38.2	+29 57	8.61	9.39	G5	5	..	38719i
36	6277	37.9	-58 38	9.7	9.5	B	2	..	37619b	86	2848	38.2	+11 19	8.5	9.0	F8	2	..	37689i
37	6071	37.9	-60 44	9.5	9.5	B8	3	..	21769b	87	4151	38.2	-16 33	7.40	8.40	Ko	6	..	40300b
38	4853	37.9	-63 4	9.1	9.2	A2	2	..	19750b	88	4410	38.2	-17 23	10.3	11.3	Ko	1	..	40300b
39	..	37.9	-65 25	..	..	Ma	1	..	21785b	89	4012	38.2	-22 23	8.8	9.1	Ko	5	..	21931b
40	2555	37.9	-68 42	8.5	8.5	B9	4	..	14146b	90	11911	38.2	-29 53	9.2	8.7	A3	4	..	40714b
41	595	38.0	+77 10	8.2	8.6	F5	5	..	37809i	91	10373	38.2	-37 2	8.0	8.1	F2	6	..	41391b
42	741	38.0	+71 28	7.12	8.12	Ko	5	..	37752i	92	3137	38.2	-65 10	9.8	10.9	K2	1	..	21785b
43	2627	38.0	+41 57	8.2	9.2	Ko	3	..	38718i	93	2448	38.2	-69 51	9.9	9.9	Ao	1	..	14146b
44	2634	38.0	+36 45	8.9	9.7	G5	1	..	38498i	94	845	38.3	+68 42	9.9	10.4	F8	1	..	38737i
45	3011	38.0	+7 14	8.7	9.5	G5	4	5,3	13817b	95	1421	38.3	+61 52	8.8	9.8	Ko	2	5,2	38764i
46	3010	38.0	+7 12	7.17	8.17	Ko	6	5,3	13817b	96	2210	38.3	+50 31	8.8	9.3	F8	3	..	38736i
47	3085	38.0	-1 24	8.9	10.0	K2	2	..	41188b	97	3071	38.3	+8 21	9.1	9.5	F5	2	..	37689i
48	4088	38.0	-7 50	9.4	10.2	G5	1	..	41242b	98	3086	38.3	-1 36	8.7	9.9	K5	2	..	41188b
49	11523	38.0	-28 31	10.4	9.2	A3	3	..	40714b	99	4060	38.3	-9 0	7.46	7.74	Fo	8	..	41242b
50	10723	38.0	-42 59	11.6	10.2	G	1	..	21781b	100	4234	38.3	-13 43	8.7	9.8	K2	3	..	40584b

THE HENRY DRAPER CATALOGUE.

140400

15<sup>h</sup> 38<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4140	38.3	-18 38	10.3	10.6	F2	3	..	40300b	51	3138	38.5	-66 4	10.1	10.1	Ao	3	..	21785b
2	12261	38.3	-24 34	10.2	10.3	K2	1	..	40284b	52	2451	38.5	-70 4	10.1	10.2	A2	1	..	14146b
3	10527	38.3	-27 9	9.2	9.2	G5	3	..	40085b	53	1069	38.6	+64 59	7.30	8.37	K2	5	..	37746i
4	10260	38.3	-41 52	10.4	10.2	A2	2	..	21781b	54	2462	38.6	+28 33	9.5	10.5	Ko	2	..	5402m
5	10171	38.3	-45 59	10.3	9.6	Ao	2	..	42502b	55	2528	38.6	+27 9	8.7	9.5	G5	6	..	5402m
6	7201	38.3	-57 30	7.0	8.6	Ko	6	0,7	37619b	56	2883	38.6	+12 1	7.14	8.21	K2	4	..	37689i
7	5241	38.3	-61 18	8.8	9.8	Ko	1	..	37619b	57	4062	38.6	- 9 9	10.6	11.7	K2	1	..	41242b
8	4857	38.3	-62 29	7.3	7.8	F8	9	..	19750b	58	4154	38.6	-10 32	8.6	9.4	G5	4	0,3	41242b
9	2120	38.3	-70 14	10.3	10.4	A2	1	..	14146b	59	4155	38.6	-10 56	9.1	9.1	Ao	4	0,3	40584b
10	1872	38.3	-72 39	9.4	9.5	A2	3	..	14146b	60	3997	38.6	-11 45	9.2	10.0	G5	2	..	40584b
11	783	38.3	-80 13	9.20	9.4	Ko	3	..	40252b	61	4203	38.6	-19 24	9.1	9.3	F5	4	..	21931b
12	808	38.4	+69 8	8.2	8.6	F5	4	..	37752i	62	10680	38.6	-33 19	9.6	9.9	K5	1	..	40279b
13	846	38.4	+68 29	9.4	9.8	F5	3	..	38737i	63	10681	38.6	-33 53	9.5	9.9	Go	1	..	40279b
14	2259	38.4	+47 2	8.2	8.8	Go	4	..	38741i	64	10282	38.6	-48 18	8.7	9.0	Ao	4	..	39069b
15	2626	38.4	+41 2	8.8	9.1	F2	2	..	38718i	65	9803	38.6	-50 31	9.5	9.2	Ao	4	..	19894b
16	3958	38.4	- 4 41	9.2	10.3	K2	1	..	41188b	66	9463	38.6	-51 22	9.3	8.9	A5	2	..	19894b
17	4171	38.4	-15 21	5.55	5.69	A5	..	R	56,92	67	6301	38.6	-59 55	9.8	9.8	Ao	2	..	37619b
18	4013	38.4	-23 2	9.2	9.9	F8	2	..	40284b	68	3266	38.6	-64 7	8.7	9.5	G5	2	..	21769b
19	12487	38.4	-24 5	7.72	7.5	Ao	8	..	40714b	69	2825	38.6	-66 32	10.1	10.4	F2	3	..	21785b
20	12497	38.4	-30 5	10.4	10.5	Ko	1	..	40085b	70	1920	38.6	-71 12	8.3	9.4	K2	2	..	14146b
21	9884	38.4	-40 32	9.8	9.6	G5	3	..	21781b	71	1873	38.6	-72 25	8.2	8.2	B9	7	..	14146b
22	10264	38.4	-41 54	10.4	10.2	A5	1	..	21781b	72	2619	38.7	+32 2	7.03	8.10	K2	4	0,2	38719i
23	10281	38.4	-47 21	9.9	9.4	Go	2	..	39069b	73	3052	38.7	+ 4 33	10.5	11.3	G5	2	..	16850b
24	8843	38.4	-52 45	9.2	8.7	Ao	3	..	19894b	74	4268	38.7	- 6 22	9.4	10.4	Ko	2	..	41242b
25	6684	38.4	-53 16	10.3	10.4	A2	1	..	19894b	75	10514	38.7	-34 47	7.72	8.0	Ao	7	..	40279b
26	6075	38.4	-60 34	9.1	9.5	F5	3	..	21769b	76	10131	38.7	-39 24	8.9	9.3	A5	2	..	41391b
27	5242	38.4	-61 37	9.3	9.3	B8	2	..	21769b	77	10734	38.7	-43 1	10.3	10.5	G	1	..	21781b
28	3675	38.4	-63 31	8.9	8.9	Ao	5	..	19750b	78	10179	38.7	-45 59	9.1	9.3	A2	5	..	42502b
29	2957	38.4	-67 49	8.8	8.8	Ao	5	..	21785b	79	10336	38.7	-46 44	9.9	9.9	A2	2	..	42502b
30	2557	38.4	-68 18	8.8	8.8	Ao	4	..	14146b	80	10286	38.7	-47 56	9.1	9.9	Ko	2	5,1	42502b
31	2450	38.4	-69 7	9.3	9.7	F5	3	..	14146b	81	7203	38.7	-57 39	10.1	10.1	B8	2	..	37619b
32	2629	38.5	+42 22	8.15	8.65	F8	5	..	38718i	82	6078	38.7	-60 41	9.1	10.3	K5	1	..	37619b
33	2691	38.5	+38 43	9.5	10.1	Go	1	..	38718i	83	3139	38.7	-65 8	6.48	5.8	A5	..	R	56,136
34	2701	38.5	+29 48	9.51	10.51	Ko	1	..	38719i	84	3139	38.7	-65 8	6.52	5.8	A5	..	R	56,136
35	2461	38.5	+28 43	10.8	10.8	Ao	2	..	5402m	85	2121	38.7	-70 35	9.1	9.2	A2	5	..	14146b
36	2722	38.5	+26 37	3.93	3.93	Ao	..	R	6706c	86	247	38.7	-87 29	9.2	9.2	Ao	6	..	22980b
37	3061	38.5	+18 28	8.5	9.1	Go	2	..	37720i	87	2417	38.8	+49 46	8.52	9.30	G5	4	..	38736i
38	2922	38.5	+13 59	6.44	7.22	G5	6	0,5	37689i	88	3093	38.8	+ 8 56	8.6	9.4	G5	2	..	37689i
39	4215	38.5	- 9 23	10.1	10.7	Go	1	..	41242b	89	2987	38.8	+ 2 44	7.6	8.6	Ko	6	..	16850b
40	4173	38.5	-15 35	8.7	8.7	Ao	6	..	40580b	90	3089	38.8	- 2 0	9.22	10.40	K5	1	..	41188b
41	4202	38.5	-19 29	9.1	10.2	K5	2	..	21931b	91	4216	38.8	- 9 35	9.1	9.7	Go	3	..	41242b
42	12498	38.5	-30 22	7.27	8.1	Ao	7	..	40714b	92	3998	38.8	-11 39	9.4	10.0	Go	2	..	40584b
43	10265	38.5	-41 26	9.6	9.6	Ko	2	..	19404b	93	4174	38.8	-16 6	9.7	9.8	A3	4	..	40300b
44	10731	38.5	-42 59	11.5	10.5	A	1	..	21781b	94	12491	38.8	-23 53	9.4	9.3	A2	4	..	40284b
45	10333	38.5	-46 40	9.7	9.6	Ao	3	..	42502b	95	11064	38.8	-32 30	9.0	8.7	F5	4	..	40279b
46	9802	38.5	-50 13	8.50	8.6	B9	4	..	19894b	96	10683	38.8	-33 10	9.0	9.6	K2	3	..	40279b
47	8847	38.5	-52 17	8.1	8.6	Ao	7	..	19894b	97	10684	38.8	-33 50	8.9	9.4	F5	2	..	40279b
48	6685	38.5	-53 42	8.2	9.5	Ko	4	0,4	19894b	98	10130	38.8	-39 28	8.2	8.4	A2	6	..	41391b
49	6885	38.5	-56 58	10.4	10.4	B9	1	..	37619b	99	9889	38.8	-40 19	8.9	9.9	K2	3	..	21781b
50	5246	38.5	-61 28	9.0	9.0	G5	3	..	19750b	100	9892	38.8	-40 25	11.1	10.4	A	1	..	21781b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

140500

15<sup>h</sup> 38<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10735	38.8	-42 31	9.7	9.7	F8	3	..	21781b	51	6698	39.1	-55 59	10.6	10.7	A2	2	..	37619b
2	10183	38.8	-45 44	9.1	9.7	Ko	2	..	42502b	52	7209	39.1	-57 8	10.4	10.4	B9	1	..	37619b
3	6664	38.8	-54 28	9.7	10.7	Ko	1	..	21734b	53	1669	39.2	+59 40	8.8	9.9	K2	2	..	38764i
4	7206	38.8	-57 49	6.9	7.3	A2	9	0.10	37619b	54	2770	39.2	+31 11	9.2	9.6	F5	2	..	38719i
5	6289	38.8	-58 36	9.2	10.3	K2	1	..	37619b	55	2465	39.2	+28 47	8.7	9.7	Ko	3	..	5402m
6	6306	38.8	-59 8	9.2	9.5	A2	3	..	37619b	56	2529	39.2	+27 15	10.1	10.7	Go	2	R	5402m
7	5252	38.8	-61 50	8.1	8.7	Ko	5	..	19750b	57	2993	39.2	+13 7	8.5	9.7	K5	2	..	37689i
8	5253	38.8	-62 1	9.0	8.3	F2	6	..	19750b	58	3121	39.2	+0 55	10.09	11.16	K2	1	..	16850b
9	3677	38.8	-63 11	8.7	9.2	F8	4	..	19750b	59	4413	39.2	-17 23	9.54	10.54	Ko	1	..	40300b
10	2826	38.8	-67 1	10.3	10.4	A2	3	..	21785b	60	4147	39.2	-18 26	9.7	10.3	Go	4	..	40300b
11	1921	38.8	-71 22	8.3	9.4	K2	3	..	14146b	61	10535	39.2	-27 36	9.7	9.7	K5	2	..	40085b
12	1422	38.9	+62 11	7.8	7.9	A5	5	2.7	38764i	62	12506	39.2	-30 51	9.5	9.7	G5	2	..	40279b
13	2464	38.9	+28 37	9.5	10.0	F8	3	..	5402m	63	10482	39.2	-36 0	9.3	9.9	F5	3	..	14367b
14	2877	38.9	+22 1	7.9	8.5	Go	2	..	37751i	64	10742	39.2	-42 51	10.6	10.2	Ko	1	..	21781b
15	4015	38.9	-22 46	9.4	9.7	Go	3	..	40284b	65	10203	39.2	-43 22	10.6	10.5	Go	2	..	21781b
16	10478	38.9	-37 8	10.4	10.8	G5	1	..	37631b	66	10379	39.2	-44 47	8.6	8.5	A3	7	..	21781b
17	10479	38.9	-37 19	8.2	8.8	Fo	4	..	41391b	67	10293	39.2	-47 53	10.1	10.2	F8	1	..	42502b
18	10737	38.9	-42 7	10.3	10.4	A2	2	..	21781b	68	6887	39.2	-56 32	10.3	10.4	A2	2	..	37619b
19	10738	38.9	-42 33	8.6	9.1	G5	4	..	21781b	69	5257	39.2	-61 37	9.3	9.3	Ao	3	..	21769b
20	10195	38.9	-43 29	8.0	8.1	B9	7	..	21781b	70	2453	39.2	-69 5	9.6	9.7	A3	2	..	14146b
21	10185	38.9	-45 8	10.3	10.2	Ao	2	..	21781b	71	2771	39.3	+31 42	7.30	7.80	F8	5	0.3	38719i
22	R	38.9	-50 25	9.5	9.5	Ao	3	..	19894b	72	2852	39.3	+23 16	7.20	7.70	F8	5	..	37751i
23	9808	38.9	-50 36	8.7	8.9	F5	4	R	19894b	73	3088	39.3	+6 44	2.75	3.75	Ko	..	R	2563c
24		38.9	-50 36			Ao				74	3820	39.3	-3 31	8.1	8.2	A3	7	..	41188b
25	2452	38.9	-69 30	9.0	9.5	F8	2	..	14146b	75	4326	39.3	-12 42	10.3	10.4	A2	2	..	40584b
26	2884	39.0	+12 8	9.1	9.2	A5	2	..	37689i	76	4154	39.3	-16 25	8.9	9.2	Fo	4	..	40300b
27	2988	39.0	+2 47	9.1	10.2	K2	1	..	16850b	77	4017	39.3	-22 35	8.8	8.7	F8	5	..	21931b
28	4205	39.0	-19 45	10.1	11.1	Ko	1	..	37760b	78	10204	39.3	-43 24	10.6	10.8	Ko	1	..	21781b
29	10688	39.0	-33 23	10.2	10.0	Ko	1	..	39928b	79	10380	39.3	-44 39	10.1	9.9	F8	2	..	21781b
30	10739	39.0	-42 29	9.5	9.6	F5	2	..	21781b	80	10349	39.3	-46 10	9.7	9.6	Fo	3	..	42502b
31	6697	39.0	-56 4	10.7	10.7	A	2	..	37619b	81	10296	39.3	-47 17	10.1	9.0	Ao	3	..	39069b
32	7208	39.0	-57 48	10.4	10.4	B8	2	..	37619b	82	8866	39.3	-52 5	9.3	9.3	Ao	2	..	19894b
33	3141	39.0	-65 12	8.82	8.9	A5	5	..	21785b	83	7211	39.3	-57 28	8.6	9.2	Ao	4	..	37619b
34	1663	39.0	-73 41	8.9	9.9	Ko	3	..	14146b	84	6299	39.3	-58 37	9.2	9.5	F2	3	..	37619b
35	1168	39.0	-77 51	7.5	7.5	B9	7	..	40252b	85	6298	39.3	-58 52	9.2	8.7	F2	6	..	37619b
36	3073	39.1	+7 55	8.5	8.5	Ao	4	..	37689i	86	..	39.3	-60 53	Neb.	Neb.	Pe	..	R	76,22
37	3068	39.1	+5 1	7.96	8.02	A2	7	..	13817b	87	3142	39.3	-65 40	9.8	10.9	K2	1	..	21785b
38	2989	39.1	+2 50	5.80	6.58	G5	7	R	38432i	88	2827	39.3	-66 41	9.2	10.4	K5	2	..	21785b
39	4040	39.1	-2 42	8.5	9.6	K2	2	..	41188b	89	1110	39.3	-76 11	9.6	9.6	Ao	2	..	40252b
40	4092	39.1	-7 45	9.7	10.3	Go	1	..	41242b	90	1629	39.4	+60 18	8.4	9.4	Ko	3	..	38764i
41	4065	39.1	-8 55	8.7	9.3	Go	4	..	41242b	91	2719	39.4	+35 7	8.6	8.7	A3	3	..	38498i
42	4175	39.1	-15 19	9.9	10.7	G5	1	..	40580b	92	2699	39.4	+30 0	8.21	8.63	F5	7	..	38719i
43	4180	39.1	-21 30	8.5	8.5	B3	5	..	21931b	93	2466	39.4	+28 23	9.5	10.3	G5	3	..	5402m
44	11541	39.1	-28 13	8.1	8.8	Ko	6	..	40085b	94	2821	39.4	+15 53	8.7	9.0	F	1	..	38754i
45	10381	39.1	-36 21	9.8	10.2	G5	2	..	14367b	95	3069	39.4	+4 55	8.81	9.59	G5	2	..	13817b
46	9895	39.1	-40 19	10.2	9.7	A3	4	..	21781b	96	4270	39.4	-14 52	8.5	9.0	F8	7	..	40580b
47	9894	39.1	-40 40	10.2	10.4	Ko	1	..	21781b	97	4176	39.4	-15 28	9.7	10.9	K5	2	..	40580b
48	10186	39.1	-45 7	11.0	10.5	A2	2	..	21781b	98	4150	39.4	-18 59	10.6	11.2	Go	2	..	37760b
49	9814	39.1	-50 48	10.1	9.3	Ao	3	..	19894b	99	11066	39.4	-25 59	9.4	8.8	Go	5	..	40085b
50	6668	39.1	-54 53	8.6	9.9	G5	4	0.4	37619b	100	11549	39.4	-28 11	10.4	9.2	Ao	3	..	40085b

## THE HENRY DRAPER CATALOGUE.

140600

15<sup>h</sup> 39<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	12241	39.4	-31 39	9.2	9.0	Ao	5	..	40279b	51	3395	39.7	+ 0 39	9.1	9.9	G5	3	..	1685ob
2	10207	39.4	-43 46	8.1	8.7	A2	7	..	21781b	52	4152	39.7	-18 48	7.7	7.8	A3	9	..	21931b
3	10299	39.4	-47 36	10.3	10.2	Ao	1	..	42502b	53	12246	39.7	-31 26	10.4	9.6	F8	3	..	40279b
4	9981	39.4	-49 55	7.8	8.1	Ao	7	..	19894b	54	12247	39.7	-31 42	9.2	10.0	K2	2	..	40279b
5	9474	39.4	-51 50	7.2	7.5	B5	8	..	19894b	55	10693	39.7	-33 54	9.2	9.6	Go	2	..	39928b
6	9475	39.4	-51 59	8.5	8.9	K2	1	..	19894b	56	10209	39.7	-43 8	9.7	10.5	G5	2	..	21781b
7	6691	39.4	-54 2	10.3	10.3	Ao	3	..	21734b	57	10353	39.7	-46 23	8.0	8.4	G5	5	..	42502b
8	6314	39.4	-59 6	9.5	9.5	B8	2	..	37619b	58	10354	39.7	-46 49	9.3	8.7	A2	4	..	42502b
9	3143	39.4	-65 51	9.7	9.8	A3	3	..	21785b	59	10305	39.7	-47 41	10.3	10.5	Ko	1	..	42502b
10	2828	39.4	-66 52	9.3	10.5	K5	2	..	21785b	60	9827	39.7	-50 26	10.6	9.3	B9	2	..	19894b
11	916	39.5	+66 10	9.2	10.2	K	2	..	37746i	61	9828	39.7	-50 40	9.9	9.2	B9	3	..	19894b
12	2100	39.5	+46 4	6.90	7.18	Fo	5	..	38496i	62	9826	39.7	-50 49	9.9	8.9	Ao	5	..	19894b
13	2530	39.5	+27 33	9.6	10.1	F8	3	..	5402m	63	3678	39.7	-63 38	9.1	10.3	K5	2	..	21769b
14	3080	39.5	+ 3 41	7.20	7.62	F5	9	..	1685ob	64	2914	39.8	+24 46	7.21	7.27	A2	6	0,7	3847oi
15	11552	39.5	-28 54	9.2	9.5	K2	3	..	40085b	65	2906	39.8	+15 37	8.5	9.1	Go	2	..	38754i
16	10488	39.5	-37 27	Cl.	Cl.	Con.	3	R	14367b	66	2854	39.8	+11 44	7.5	8.5	Ko	4	..	37689i
17	9907	39.5	-40 42	8.9	8.8	Fo	6	..	21781b	67	2853	39.8	+11 36	7.44	7.94	F8	6	..	37689i
18	10383	39.5	-44 57	9.36	9.4	B9	4	..	21781b	68	3018	39.8	+ 7 24	9.5	9.8	Fo	3	..	13817b
19	10296	39.5	-48 26	7.00	7.2	B8	7	..	39069b	69	3122	39.8	+ 0 59	10.5	11.5	Ko	1	..	1685ob
20	9476	39.5	-52 1	8.6	8.6	A	3	..	19894b	70	4094	39.8	- 7 30	9.2	10.4	K5	1	..	41242b
21	9477	39.5	-52 1	8.6	8.6	G	4	..	19894b	71	4020	39.8	-22 26	6.92	8.1	Ko	8	..	21931b
22	9478	39.5	-52 3	9.0	8.9	Ao	3	..	19894b	72	11070	39.8	-25 11	7.92	8.8	K5	4	..	40284b
23	8869	39.5	-52 35	8.7	8.4	Ao	6	..	19894b	73	11557	39.8	-28 53	9.2	8.8	F2	5	..	40085b
24	7214	39.5	-57 5	9.6	9.6	B9	3	..	37619b	74	10284	39.8	-41 25	8.6	9.6	K2	3	..	21781b
25	348	39.6	+84 50	8.78	9.78	Ko	2	..	3782oi	75	10387	39.8	-44 21	10.1	9.6	A2	3	..	21781b
26	911	39.6	+67 23	9.1	9.5	F5	2	..	38737i	76	10386	39.8	-44 41	9.9	9.7	A	3	..	21781b
27	2021	39.6	+51 28	9.7	10.7	Ko	1	..	38736i	77	10306	39.8	-47 20	8.7	9.9	K5	2	..	39069b
28	2323	39.6	+45 19	8.6	9.8	K5	2	..	38718i	78	8874	39.8	-52 18	9.3	9.6	Fo	2	..	19894b
29	2878	39.6	+22 39	7.8	8.3	F8	3	..	37751i	79	6704	39.8	-55 34	8.6	9.3	K2	5	..	37619b
30	2992	39.6	+ 2 8	9.5	9.9	F5	3	..	1685ob	80	6703	39.8	-55 46	9.8	9.8	B8	4	..	37619b
31	4238	39.6	-13 59	10.6	10.9	Fo	2	..	4058ob	81	7217	39.8	-57 30	8.6	9.6	F8	2	..	37619b
32	4151	39.6	-18 10	9.9	10.7	G5	2	..	4030ob	82	6309	39.8	-58 5	9.0	9.3	F8	4	..	37619b
33	12498	39.6	-23 12	9.1	9.3	F8	4	..	40284b	83	3270	39.8	-64 21	9.5	10.7	K5	1	..	21769b
34	10541	39.6	-27 19	9.2	9.5	Ma	3	..	40085b	84	2124	39.8	-70 12	9.3	9.4	A5	3	..	14146b
35	11933	39.6	-29 32	9.7	9.0	A3	4	..	40085b	85	1669	39.8	-74 2	9.1	9.5	F5	4	..	14146b
36	11930	39.6	-29 44	7.04	8.1	Ko	8	..	40085b	86	4239	39.9	-13 29	9.7	10.7	Ko	1	..	4058ob
37	11931	39.6	-30 2	9.38	9.6	Ko	3	..	40085b	87	12275	39.9	-24 24	7.53	8.2	Ko	7	..	40714b
38	10384	39.6	-37 5	9.3	10.5	G5	1	..	37631b	88	10388	39.9	-36 43	10.4	10.2	Go	2	..	14367b
39	10643	39.6	-38 27	8.9	9.3	F2	3	..	14367b	89	10387	39.9	-36 55	10.4	10.9	Ko	1	..	37631b
40	10144	39.6	-39 32	10.4	10.2	A2	2	..	14367b	90	10755	39.9	-42 55	7.8	8.4	G5	7	..	21781b
41	6674	39.6	-54 46	9.6	10.8	K5	1	..	21734b	91	10201	39.9	-45 33	9.7	9.4	Ao	3	..	42502b
42	6305	39.6	-58 54	9.5	9.5	B8	3	..	37619b	92	10357	39.9	-46 19	9.9	9.3	Ao	3	..	42502b
43	3269	39.6	-64 55	8.6	9.6	Ko	4	..	21785b	93	10356	39.9	-46 27	9.5	9.0	B9	4	..	42502b
44	2561	39.6	-69 0	8.6	9.1	F8	4	..	14146b	94	6695	39.9	-53 23	9.9	10.7	G5	1	..	21734b
45	2629	39.7	+41 1	8.8	9.1	F2	3	..	38718i	95	7218	39.9	-57 30	10.7	10.7	A	1	..	37619b
46	2957	39.7	+25 17	8.1	9.3	K5	1	..	3847oi	96	6312	39.9	-58 56	9.7	9.8	A3	1	..	37619b
47	2852	39.7	+11 8	8.5	9.3	G5	2	..	37689i	97	3679	39.9	-63 52	9.2	9.2	B9	4	..	21785b
48	3095	39.7	+ 9 10	8.4	9.2	G5	2	..	9475b	98	1530	40.0	+60 55	9.7	10.7	Ko	1	..	38764i
49	3076	39.7	+ 8 25	8.4	9.4	Ko	2	..	37689i	99	1828	40.0	+55 51	8.8	10.0	K5	1	..	38767i
50	3070	39.7	+ 5 21	9.1	10.1	Ko	1	..	13817b	100	2822	40.0	+16 50	7.42	8.60	K5	3	..	37751i

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

140700

15<sup>h</sup> 40<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4179	40.0	-15 18	10.3	10.8	F8	2	..	40580b	51	3055	40.3	+ 4 51	8.67	8.95	Fo	3	..	13817b
2	12276	40.0	-24 15	8.9	9.5	K5	2	..	40284b	52	4224	40.3	- 9 24	8.5	9.3	G5	5	..	41242b
3	10494	40.0	-35 34	8.08	8.5	F5	5	..	40279b	53	4157	40.3	-18 55	10.3	10.8	F8	2	..	40300b
4	10215	40.0	-43 56	7.4	8.4	Ao	8	..	21781b	54	4211	40.3	-19 15	10.6	11.2	Ko	1	0,1	37760b
5	10203	40.0	-45 36	9.9	9.7	A3	1	..	42502b	55	4316	40.3	-20 12	9.7	10.5	A2	3	..	37760b
6	9837	40.0	-50 33	10.3	9.5	Ao	2	..	19894b	56	12253	40.3	-31 18	9.5	10.0	G5	1	..	40279b
7	6696	40.0	-53 13	10.3	10.4	A2	2	..	19894b	57	10396	40.3	-36 38	8.0	7.6	Ao	6	..	41391b
8	6097	40.0	-60 10	8.63	9.8	Ma	2	5,2	37619b	58	9921	40.3	-40 54	8.2	7.8	A2	3	0,9	43284b
9	6098	40.0	-60 23	8.7	9.3	Ko	4	..	21769b	59	10396	40.3	-44 23	9.5	9.6	G5	3	..	21781b
10	3271	40.0	-64 40	10.1	10.1	Ao	3	..	21785b	60	10366	40.3	-46 54	10.6	9.9	Ao	1	..	42502b
11	2829	40.0	-66 17	9.5	10.5	Ko	3	..	21785b	61	9844	40.3	-50 7	9.14	9.2	Ao	4	..	19894b
12	2961	40.0	-68 0	8.4	9.5	K2	1	..	14146b	62	9493	40.3	-51 38	10.3	9.2	A2	2	..	19894b
13	1922	40.0	-71 37	9.2	10.4	K5	1	..	14146b	63	6900	40.3	-56 15	8.5	8.7	A2	6	..	37619b
14	1112	40.0	-76 55	9.1	9.6	F8	1	..	40252b	64	7223	40.3	-57 46	8.7	9.3	B9	5	..	37619b
15	1773	40.1	+54 52	8.91	9.91	Ko	2	..	38736i	65	1261	40.3	-75 51	8.4	9.5	K2	4	3,2	40252b
16	2621	40.1	+32 50	5.60	6.60	Ko	8	0,8R	38719i	66	917	40.4	+66 42	9.1	10.2	K2	2	..	37746i
17	3090	40.1	+ 5 59	9.8	10.6	G5	1	..	13817b	67	1425	40.4	+62 22	9.6	10.4	G5	2	..	37746i
18	4274	40.1	-14 24	9.7	10.0	Fo	4	..	40580b	68	2023	40.4	+51 45	8.8	9.9	K2	1	..	38736i
19	4273	40.1	-14 45	10.6	11.6	Ko	1	..	40580b	69	2322	40.4	+48 6	8.2	9.2	Ko	3	..	38741i
20	..	40.1	-14 52	..	..	G5	1	..	40580b	70	2264	40.4	+47 12	8.2	8.2	Ao	3	..	38741i
21	4155	40.1	-16 38	7.53	7.95	F5	8	..	40300b	71	2101	40.4	+46 12	8.3	9.4	K2	2	..	38741i
22	10550	40.1	-27 45	6.45	7.6	A5	10	..	40085b	72	2914	40.4	+39 52	7.57	8.92	Ma	3	..	38718i
23	10698	40.1	-33 35	9.6	9.6	G5	1	..	39928b	73	2906	40.4	+39 14	8.7	9.7	Ko	3	..	38718i
24	9839	40.1	-50 47	9.2	9.5	Ko	2	..	19894b	74	2622	40.4	+32 27	10.1	11.5	Mc	..	..	M
25	9490	40.1	-51 27	9.1	8.6	B9	5	..	19894b	75	3072	40.4	+ 5 45	5.56	5.56	Ao	..	0,6	56,92
26	848	40.2	+68 45	8.6	9.4	G5	2	..	37752i	76	3124	40.4	+ 1 50	8.7	9.8	K2	4	..	16850b
27	912	40.2	+67 38	8.6	8.7	A2	4	E	37746i	77	4159	40.4	- 5 46	9.4	9.5	A2	3	..	41242b
28	1898	40.2	+52 40	5.48	5.48	Aop	..	I, R	56,92	78	4069	40.4	- 8 43	9.7	10.3	Go	3	..	41242b
29	2906	40.2	+17 34	5.89	5.89	Ao	10	R	37751i	79	4415	40.4	-17 52	9.7	10.2	F8	3	..	40300b
30	2907	40.2	+17 3	7.07	8.14	K2	6	..	37751i	80	4160	40.4	-18 49	10.1	10.5	F5	2	..	40300b
31	3004	40.2	- 1 5	8.9	9.9	Ko	3	..	41188b	81	4159	40.4	-19 4	9.2	9.6	F5	3	..	40300b
32	4158	40.2	- 5 50	7.36	8.36	Ko	6	..	41188b	82	12530	40.4	-30 35	8.9	8.5	F8	7	..	40085b
33	4275	40.2	-14 56	10.3	11.1	G5	1	..	40580b	83	12256	40.4	-31 36	9.2	9.3	Ao	4	..	40279b
34	12525	40.2	-30 21	10.2	9.4	A3	4	..	40085b	84	10524	40.4	-34 22	5.61	5.9	B8	..	..	28,210
35	11091	40.2	-32 17	10.6	9.7	F8	3	..	40279b	85	10296	40.4	-41 53	7.60	8.1	Go	9	..	19404b
36	9918	40.2	-40 28	9.8	9.0	Ao	6	..	21781b	86	10367	40.4	-46 40	8.7	9.6	Ko	2	..	42502b
37	10394	40.2	-44 46	10.6	10.2	A2	2	..	21781b	87	10309	40.4	-48 20	9.5	8.9	Ao	4	..	39069b
38	10363	40.2	-46 10	9.9	10.5	K2	1	..	42502b	88	7224	40.4	-57 7	8.7	10.1	K5	3	..	37619b
39	10365	40.2	-46 40	9.7	9.9	A2	1	..	42502b	89	2964	40.4	-67 26	10.0	10.1	A2	3	..	21785b
40	10305	40.2	-48 16	9.7	9.2	Ao	3	..	39069b	90	741	40.4	-81 13	8.5	9.9	Ma	1	0,1	43458b
41	9491	40.2	-51 53	9.9	9.2	Ao	1	..	19894b	91	1072	40.5	+65 40	9.2	10.3	K2	2	..	37746i
42	6896	40.2	-56 19	9.9	10.4	F8	1	R	37619b	92	2704	40.5	+29 30	9.9	10.5	Go	4	..	5402m
43	7222	40.2	-57 33	9.9	9.9	Ao	3	..	37619b	93	2532	40.5	+27 2	9.5	10.5	Ko	2	..	5402m
44	7221	40.2	-58 3	10.4	10.4	Ao	2	..	37619b	94	3021	40.5	+ 7 29	9.3	9.4	A2	3	..	13817b
45	5274	40.2	-61 40	8.7	10.1	Ma	1	..	37619b	95	3056	40.5	+ 4 20	8.9	9.7	G5	3	..	13817b
46	2831	40.2	-66 52	8.9	9.0	A2	7	..	21785b	96	4002	40.5	-11 27	9.4	10.4	Ko	2	..	40580b
47	2830	40.2	-67 4	10.1	10.1	Ao	3	..	21785b	97	4001	40.5	-11 43	10.1	10.9	G5	2	..	40580b
48	2963	40.2	-67 49	8.5	8.6	A2	4	..	14146b	98	12507	40.5	-23 44	9.4	10.2	Go	2	..	40284b
49	3019	40.3	+ 7 48	9.1	9.6	F8	3	..	37689i	99	10398	40.5	-36 17	8.2	9.9	K2	2	..	14367b
50	3071	40.3	+ 5 0	8.01	8.57	Go	5	..	13817b	100	9924	40.5	-40 21	10.6	9.9	A5	3	..	21781b

THE HENRY DRAPER CATALOGUE.

140800

15<sup>h</sup> 40<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10297	40.5	-41 31	9.6	9.0	Ao	5	..	21781b	51	4227	40.8	-9 39	9.2	10.0	G5	2	..	41242b
2	10311	40.5	-48 5	9.1	9.2	A2	3	..	39069b	52	4329	40.8	-12 33	9.7	10.7	Ko	1	..	40580b
3	10313	40.5	-48 55	9.0	8.6	B8	5	..	39069b	53	4213	40.8	-19 19	9.2	10.8	Ko	1	..	40300b
4	9851	40.5	-50 21	10.1	9.3	Ao	2	..	19894b	54	12284	40.8	-24 45	10.4	9.5	Go	2	..	40284b
5	8891	40.5	-52 45	9.0	9.8	K2	1	..	19894b	55	12286	40.8	-24 56	9.10	8.8	A3	5	..	40284b
6	6684	40.5	-54 17	9.3	9.3	B8	5	..	21734b	56	11085	40.8	-25 40	8.7	9.2	Ko	2	..	40284b
7	6324	40.5	-58 33	8.6	8.0	B8	9	..	37619b	57	11568	40.8	-28 15	9.7	9.2	Go	1	..	40085b
8	4896	40.5	-62 19	8.6	9.8	K5	2	..	21769b	58	12263	40.8	-32 1	9.9	9.9	Ko	2	..	39928b
9	3682	40.5	-63 58	8.9	8.9	Ao	5	..	21785b	59	10404	40.8	-36 17	10.4	10.4	Go	1	..	14367b
10	2832	40.5	-66 11	9.5	9.5	B9	5	..	21785b	60	10401	40.8	-36 48	9.6	10.2	Go	1	..	14367b
11	1531	40.6	+61 32	9.4	9.7	F2	1	..	38764i	61	10157	40.8	-39 53	6.45	7.6	G5	5	..	43284b
12	2813	40.6	+21 45	7.44	7.78	F2	5	..	37751i	62	10323	40.8	-48 41	9.5	8.9	F5	3	..	39069b
13	2812	40.6	+21 11	7.60	7.66	A2	4	..	37751i	63	7236	40.8	-57 19	9.7	9.8	A2	3	..	37619b
14	2889	40.6	+12 21	9.1	9.5	F5	3	..	37689i	64	6330	40.8	-58 43	8.8	9.8	Ko	2	..	37619b
15	3125	40.6	+1 10	6.46	7.46	Ko	4	0.9	38432i	65	6339	40.8	-59 33	9.5	9.5	B8	4	..	37619b
16	11025	40.6	-26 24	9.7	9.5	K5	2	..	40085b	66	5283	40.8	-61 12	9.6	9.6	Ao	2	0.2	21769b
17	10503	40.6	-35 12	6.72	7.3	B9	7	..	40279b	67	3273	40.8	-64 27	9.2	9.8	Go	2	..	21785b
18	10498	40.6	-37 27	11.1	10.4	A2	2	..	37631b	68	2564	40.8	-68 43	8.9	9.5	Go	1	..	14146b
19	10152	40.6	-39 52	10.4	9.6	F8	3	..	21781b	69	2325	40.9	+45 37	8.2	9.0	G5	3	..	38718i
20	10769	40.6	-42 16	10.3	10.5	G5	1	..	21781b	70	3078	40.9	+5 38	9.1	9.5	F5	2	..	13817b
21	10315	40.6	-47 6	8.7	9.6	Ko	2	..	42502b	71	3077	40.9	+5 13	9.5	10.5	Ko	1	..	13817b
22	8896	40.6	-52 46	9.8	9.8	Ao	3	..	19894b	72	3398	40.9	+0 18	9.1	10.1	Ko	3	..	16850b
23	6716	40.6	-55 17	10.4	10.4	A	2	..	21734b	73	3092	40.9	-1 30	5.37	5.32	B8	..	0.2	56.92
24	6714	40.6	-56 5	10.4	10.4	Ao	2	..	37619b	74	4004	40.9	-11 57	9.9	10.7	G5	1	..	40580b
25	7230	40.6	-57 29	8.6	8.9	F2	6	..	37619b	75	12535	40.9	-30 29	9.5	9.3	Ao	5	..	40085b
26	6332	40.6	-60 4	6.74	6.9	Fo	..	5.9-	56.136	76	11105	40.9	-32 59	8.4	8.5	Go	6	..	40279b
27	3272	40.6	-64 48	9.3	10.1	G5	3	..	21785b	77	10158	40.9	-39 22	10.6	10.2	Go	2	..	14367b
28	3144	40.6	-65 59	10.0	10.8	G5	2	..	21785b	78	10231	40.9	-43 37	9.9	10.5	Ko	2	..	21781b
29	2454	40.6	-69 8	9.0	9.5	F8	3	..	14146b	79	10401	40.9	-44 17	9.7	9.6	F8	4	..	21781b
30	2211	40.7	+50 48	9.4	10.2	G5	2	..	38736i	80	10400	40.9	-44 22	9.5	9.7	Ko	3	..	21781b
31	2524	40.7	+43 2	8.4	8.7	F2	4	..	38718i	81	10321	40.9	-47 32	9.7	9.9	G5	2	..	42502b
32	2705	40.7	+29 8	9.5	10.1	Go	3	..	5402m	82	10007	40.9	-49 26	6.9	8.6	K5	3	..	39069b
33	2963	40.7	+25 1	7.41	7.49	A3	5	1.6	38470i	83	6686	40.9	-54 33	10.7	10.7	Ao	2	..	21734b
34	3097	40.7	+8 58	8.1	8.9	G5	3	..	37689i	84	7239	40.9	-57 46	9.6	10.4	G5	2	..	37619b
35	3079	40.7	+8 15	9.0	9.5	F8	3	..	13817b	85	5287	40.9	-61 47	9.0	8.9	F8	3	..	19750b
36	4182	40.7	-15 51	8.1	9.1	Ko	5	..	40580b	86	3685	40.9	-63 27	8.7	9.2	F8	5	..	21769b
37	4417	40.7	-17 50	9.2	10.0	G5	2	..	40300b	87	..	40.9	-73 30	..	..	Ko	2	..	14146b
38	11082	40.7	-26 4	9.7	9.8	Ko	1	..	40085b	88	11116	40.9	-76 13	8.7	9.5	G5	1	..	40252b
39	11028	40.7	-26 48	10.6	9.4	A5	3	..	40085b	89	2703	41.0	+29 54	10.1	10.7	Go	3	..	5402m
40	10504	40.7	-35 13	6.89	7.8	B9	7	..	40279b	90	3143	41.0	+20 28	9.5	10.1	G	1	..	37751i
41	9925	40.7	-40 44	7.6	8.1	Ko	3	5.10	43284b	91	3057	41.0	+4 26	8.9	9.0	A3	2	..	13817b
42	9853	40.7	-50 17	6.68	7.7	A5	8	..	19894b	92	3127	41.0	+1 45	8.7	9.8	K2	3	..	16850b
43	6903	40.7	-56 48	8.1	8.9	B8	6	..	37619b	93	3093	41.0	-1 16	8.9	10.1	K5	1	..	41188b
44	6109	40.7	-60 13	9.0	9.8	G5	1	..	37619b	94	3823	41.0	-3 38	8.5	8.5	Ao	5	..	41188b
45	2125	40.7	-71 5	9.1	9.1	Ao	5	..	14146b	95	4072	41.0	-8 29	8.8	9.4	Go	1	..	41242b
46	2908	40.8	+39 43	9.07	10.07	Ko	1	..	38718i	96	4245	41.0	-13 41	10.3	10.7	F5	2	..	40580b
47	2693	40.8	+37 51	8.3	9.5	K5	1	..	38718i	97	4023	41.0	-22 49	9.7	10.2	Go	1	..	40284b
48	3081	40.8	+3 16	10.5	11.1	Go	1	..	16850b	98	11090	41.0	-25 38	9.7	9.2	G5	2	..	40284b
49	3126	40.8	+1 11	9.8	10.4	Go	3	..	16850b	99	11089	41.0	-26 1	9.5	9.5	Ko	1	..	40085b
50	3005	40.8	-1 8	8.9	10.1	K5	1	..	41188b	100	11109	41.0	-32 19	8.4	8.5	F5	6	..	40279b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

140900

15<sup>h</sup>41<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10500	41.0	-37 36	6.12	6.9	Go	9	..	41391b	51	1117	41.2	-77 2	9.6	9.6	Ao	1	..	40252b
2	10232	41.0	-43 30	10.1	10.2	F2	3	..	21781b	52	2025	41.3	+51 13	8.7	9.8	K2	2	..	38736i
3	10324	41.0	-48 56	8.9	8.7	K2	3	..	39069b	53	3096	41.3	+6 25	8.1	9.2	K2	7	..	13817b
4	9860	41.0	-50 16	8.5	9.6	K5	1	..	19894b	54	3824	41.3	-3 45	8.1	9.3	K5	3	..	41188b
5	7241	41.0	-57 53	10.1	10.1	B8	3	..	37619b	55	4187	41.3	-21 14	9.1	9.9	A2	3	..	40300b
6	6335	41.0	-58 52	9.6	9.6	Ao	2	..	37619b	56	11036	41.3	-26 46	8.5	8.8	Ko	6	..	40085b
7	4912	41.0	-62 32	9.6	9.6	B9	2	..	21769b	57	11113	41.3	-32 49	9.6	9.3	G5	3	..	40279b
8	2967	41.0	-67 49	8.5	9.1	Go	2	..	14146b	58	10502	41.3	-37 57	7.99	8.1	A2	5	..	41391b
9	2565	41.0	-68 7	8.5	8.5	B9	5	..	14146b	59	10782	41.3	-42 59	9.9	9.6	Ao	3	..	21781b
10	2566	41.0	-68 37	8.8	8.8	Ao	5	..	14146b	60	10239	41.3	-43 15	10.3	10.5	A2	2	..	21781b
11	1923	41.0	-71 49	8.5	8.5	Ao	6	..	14146b	61	10383	41.3	-46 53	10.6	10.2	A2	1	..	42502b
12	2673	41.1	+37 28	8.9	9.4	F8	2	..	38718i	62	6703	41.3	-53 35	10.3	10.3	Ao	2	..	21734b
13	2469	41.1	+28 47	7.90	8.46	Go	6	..	38719i	63	3147	41.3	-65 55	10.1	10.1	B9	3	..	21785b
14	2470	41.1	+28 33	9.89	10.67	G5	2	..	5402m	64	2567	41.3	-68 45	8.7	9.5	G5	1	..	14146b
15	3128	41.1	+0 58	9.34	10.52	K5	2	..	16850b	65	1805	41.4	+53 13	7.70	8.77	K2	3	..	38736i
16	4097	41.1	-7 54	8.9	10.0	K2	3	..	41242b	66	2916	41.4	+39 59	9.52	10.30	G5	1	..	38718i
17	4073	41.1	-8 22	9.2	9.7	F8	4	..	41242b	67	3095	41.4	-1 17	8.7	9.2	F8	5	..	41188b
18	4228	41.1	-9 49	8.1	8.9	G5	6	..	41242b	68	11095	41.4	-25 34	7.9	8.2	A2	7	..	40284b
19	4157	41.1	-16 48	7.77	8.77	Ko	5	..	40300b	69	12275	41.4	-31 46	10.4	9.9	G5	2	..	39928b
20	10705	41.1	-33 22	10.0	9.9	Ko	1	..	39928b	70	12272	41.4	-31 51	10.6	9.7	F5	2	..	39928b
21	10409	41.1	-36 47	10.2	9.9	F5	2	..	14367b	71	11114	41.4	-32 26	8.3	9.0	Ko	5	..	40279b
22	10408	41.1	-36 57	9.3	10.2	G5	2	..	14367b	72	10412	41.4	-37 4	10.6	10.5	Fo	2	..	14367b
23	10660	41.1	-38 5	9.6	10.8	K5	1	..	37631b	73	10505	41.4	-37 22	7.30	7.8	Fo	6	..	41391b
24	10237	41.1	-43 9	11.0	11.1	Ko	1	..	21781b	74	10504	41.4	-37 44	8.9	9.9	G5	3	..	14367b
25	10008	41.1	-49 27	7.3	8.0	F8	5	..	39069b	75	10305	41.4	-41 52	9.0	9.3	A2	5	..	21781b
26	6687	41.1	-54 5	7.8	8.1	B8	7	0.4	21734b	76	10241	41.4	-43 9	8.4	8.0	B9	8	..	21781b
27	6718	41.1	-55 49	10.3	10.3	B9	2	..	37619b	77	10240	41.4	-44 3	6.7	7.7	A2	5	..	43284b
28	6908	41.1	-56 10	8.7	9.8	Ko	4	..	37619b	78	9510	41.4	-51 44	8.5	8.6	Ao	4	..	19894b
29	6118	41.1	-60 58	9.5	9.5	B9	3	0.3	21769b	79	8912	41.4	-52 8	6.04	7.7	Ko	..	0.8	56,136
30	2833	41.1	-66 38	9.6	10.1	F8	1	..	21785b	80	2568	41.4	-68 37	8.6	8.6	B9	5	..	14146b
31	1670	41.1	-73 18	8.7	9.8	K2	3	..	14146b	81	2455	41.4	-69 20	8.4	8.5	A2	7	..	14146b
32	742	41.1	-81 37	9.4	9.5	A2	1	2.1	43458b	82	1670	41.5	+59 26	9.1	9.7	Go	2	..	38764i
33	3000	41.2	+12 52	8.3	8.7	F5	4	..	37689i	83	2534	41.5	+27 17	9.9	10.2	F2	2	..	5402m
34	3058	41.2	+3 58	8.6	9.4	G5	5	..	16850b	84	2533	41.5	+26 58	10.1	11.1	Ko	1	..	5402m
35	3399	41.2	+0 31	9.3	9.9	Go	3	..	16850b	85	3825	41.5	-3 31	9.1	9.6	F8	1	..	41188b
36	4158	41.2	-16 17	9.7	9.7	Ao	3	..	40580b	86	4161	41.5	-5 49	6.36	7.36	Ko	5	0.8	19953b
37	4163	41.2	-18 50	8.7	8.8	A3	6	..	40300b	87	4277	41.5	-14 56	8.5	8.8	Fo	7	..	40580b
38	11035	41.2	-26 45	10.4	9.5	K2	1	..	40085b	88	4420	41.5	-17 43	10.1	10.7	Go	2	..	37760b
39	10558	41.2	-27 8	10.9	9.5	F8	1	..	40085b	89	4164	41.5	-18 11	9.1	10.2	K2	2	..	40300b
40	10706	41.2	-33 9	9.8	8.7	F8	5	..	40279b	90	4322	41.5	-20 10	7.73	8.1	Go	8	..	21931b
41	10163	41.2	-39 33	10.6	10.4	F5	1	..	14367b	91	12514	41.5	-24 3	10.6	10.5	F8	1	..	40284b
42	9934	41.2	-40 39	10.4	10.5	K2	1	..	21781b	92	10560	41.5	-27 58	9.7	9.5	A2	1	..	40085b
43	9935	41.2	-40 45	10.0	9.9	Ko	3	..	21781b	93	11574	41.5	-29 0	9.7	8.9	Go	4	..	40085b
44	6692	41.2	-54 6	7.8	8.1	B9	6	0.4	21734b	94	10510	41.5	-35 24	8.2	8.7	F5	5	..	40279b
45	7242	41.2	-57 22	9.6	10.1	F8	2	..	37619b	95	10307	41.5	-41 51	10.6	9.9	Ao	2	..	21781b
46	6345	41.2	-59 51	9.2	9.0	B3	4	..	37619b	96	10244	41.5	-43 16	8.6	9.0	Fo	6	..	21781b
47	5291	41.2	-61 49	9.6	9.6	B9	2	..	21769b	97	10228	41.5	-45 43	9.3	9.9	K2	1	..	42502b
48	3690	41.2	-63 22	9.5	9.6	A2	4	..	21769b	98	6697	41.5	-54 17	9.2	9.5	F2	4	2.2	21734b
49	2968	41.2	-67 14	10.1	10.9	G5	2	..	21785b	99	3275	41.5	-64 27	9.0	9.4	F5	3	..	21785b
50	2126	41.2	-70 51	9.0	9.0	Ao	6	..	14146b	100	1879	41.5	-73 2	8.0	8.1	A5	6	..	14146b



## THE HENRY DRAPER CATALOGUE.

141000

15<sup>h</sup> 41<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2419	41.6	+49 20	8.8	9.8	Ko	1	..	38766i	51	10168	41.8	-39 13	11.6	10.5	Ao	1	..	14367b
2	2707	41.6	+29 16	8.70	9.77	K2	2	..	38719i	52	10251	41.8	-43 19	11.0	10.5	F5	2	R	21781b
3	2911	41.6	+15 44	3.74	3.80	A2	..	R	1332c	53	10336	41.8	-48 27	7.7	7.7	Ko	4	..	39069b
4	3023	41.6	+7 40	4.42	4.98	Go	..	R	56,92	54	9521	41.8	-51 55	7.2	8.3	Ma	4	..	19894b
5	4247	41.6	-13 35	10.3	11.3	Ko	1	..	40580b	55	4926	41.8	-62 13	8.4	9.2	G5	3	..	19750b
6	4421	41.6	-17 47	8.1	8.2	A3	8	..	40300b	56	2573	41.8	-68 18	8.6	9.1	F8	3	..	14146b
7	4215	41.6	-19 38	10.3	10.8	A2	2	..	37760b	57	2456	41.8	-69 42	9.1	9.1	Ao	5	..	14146b
8	11117	41.6	-32 50	7.50	8.5	Ko	6	..	40279b	58	1262	41.8	-75 6	8.8	9.8	Ko	3	..	14146b
9	9939	41.6	-40 16	9.2	8.8	B9	6	..	21781b	59	1170	41.8	-77 26	6.9	7.9	Ko	6	..	40252b
10	10308	41.6	-41 41	10.0	9.7	G5	2	..	21781b	60	914	41.9	+67 23	8.8	10.0	K5	2	..	38737i
11	10789	41.6	-42 19	8.4	9.3	F5	6	..	21781b	61	4079	41.9	-8 37	9.2	9.2	Ao	4	..	41242b
12	10245	41.6	-43 42	11.0	10.5	Ao	2	..	21781b	62	4230	41.9	-10 0	8.21	9.39	K5	3	..	41242b
13	10335	41.6	-47 14	10.6	10.2	A5	2	..	42502b	63	11098	41.9	-25 41	6.87	7.9	Ao	8	..	40284b
14	9517	41.6	-51 44	8.5	8.6	B8	5	..	19894b	64	10392	41.9	-46 55	9.5	9.6	Ao	4	..	42502b
15	6698	41.6	-54 12	9.5	10.7	K5	1	..	21734b	65	10337	41.9	-48 15	8.4	9.8	K5	1	..	42502b
16	6719	41.6	-55 17	9.0	8.7	B9	6	..	37619b	66	10339	41.9	-48 17	11.0	9.8	B9	1	..	42502b
17	6912	41.6	-56 35	9.1	9.6	B8	4	..	37619b	67	8927	41.9	-52 35	8.3	8.0	Ao	7	..	19894b
18	7249	41.6	-57 11	9.2	10.4	K5	2	..	37619b	68	2919	42.0	+40 28	7.52	7.58	A2	8	..	38718i
19	2969	41.6	-67 27	9.4	10.5	K2	3	..	21785b	69	3145	42.0	+20 13	7.80	8.36	Go	4	..	37751i
20	1588	41.7	+58 20	9.2	9.3	A2	2	..	38767i	70	2904	42.0	+10 6	6.97	7.03	A2	8	..	37689i
21	2102	41.7	+45 59	8.4	8.8	F5	3	..	38741i	71	3024	42.0	+7 43	9.5	10.3	G5	2	..	13817b
22	2633	41.7	+41 30	8.2	9.2	Ko	5	..	38718i	72	4044	42.0	-2 19	8.3	9.5	K5	3	..	41188b
23	2535	41.7	+26 55	9.6	9.7	A3	5	..	5402m	73	4280	42.0	-7 5	10.1	10.7	Go	1	..	41242b
24	2935	41.7	+14 2	8.0	8.8	G5	3	..	38754i	74	4248	42.0	-13 43	9.9	10.7	G5	1	..	40580b
25	3129	41.7	+1 3	10.5	11.1	Go	2	..	16850b	75	4279	42.0	-14 19	9.7	9.8	A5	3	..	40580b
26	4100	41.7	-7 10	9.4	9.5	A3	5	..	41242b	76	4278	42.0	-14 20	9.4	9.7	Fo	4	..	40580b
27	4009	41.7	-11 55	9.7	10.7	Ko	1	..	40580b	77	4025	42.0	-22 23	10.3	10.5	G5	1	..	40284b
28	4422	41.7	-17 16	11.0	11.6	Go	1	..	37760b	78	10564	42.0	-27 33	11.1	9.5	A5	1	..	40085b
29	4323	41.7	-20 55	7.9	9.0	G5	5	..	21931b	79	10421	42.0	-37 1	9.0	9.3	Ao	4	..	14367b
30	11039	41.7	-26 41	12.0	9.7	K2	1	..	40085b	80	10253	42.0	-43 47	9.5	9.9	A3	4	..	21781b
31	10409	41.7	-45 3	9.22	9.9	K5	2	..	42502b	81	10394	42.0	-47 2	9.2	8.7	B8	5	..	42502b
32	9519	41.7	-51 39	8.4	8.9	F8	3	..	41517b	82	9870	42.0	-50 19	10.3	9.5	Ao	2	..	19894b
33	6699	41.7	-54 46	9.9	10.4	F8	3	..	21734b	83	8928	42.0	-52 30	8.2	7.7	Ao	6	..	19894b
34	7254	41.7	-57 28	10.3	10.4	A2	1	..	37619b	84	2129	42.0	-70 10	8.9	9.4	F8	4	..	14146b
35	6350	41.7	-58 54	10.0	10.0	Ao	1	..	37619b	85	3975	42.1	-4 49	8.1	8.9	G5	3	..	41188b
36	2572	41.7	-68 21	7.9	9.1	K5	2	..	14146b	86	4232	42.1	-9 47	9.7	10.3	Go	2	..	41242b
37	2128	41.7	-70 31	7.9	7.9	B8	8	..	14146b	87	4423	42.1	-18 0	10.1	10.9	G5	2	..	37760b
38	1671	41.7	-73 36	9.1	9.6	F8	3	..	14146b	88	4218	42.1	-19 24	9.1	10.5	Mb	2	..	40300b
39	1806	41.8	+53 17	7.27	8.05	G5	6	5.2	38736i	89	4219	42.1	-19 33	9.9	10.5	F8	1	..	37760b
40	2913	41.8	+15 50	6.78	6.86	A3	5	0.7	37751i	90	12518	42.1	-23 29	9.7	10.7	Ko	1	..	40284b
41	3081	41.8	+8 40	8.3	9.3	Ko	3	..	13817b	91	12296	42.1	-24 55	7.26	7.5	Ao	8	..	40284b
42	4101	41.8	-8 9	7.7	8.7	Ko	7	..	41242b	92	11040	42.1	-26 14	9.7	9.4	Go	2	..	40085b
43	4165	41.8	-10 19	9.7	9.8	A2	2	..	41242b	93	11127	42.1	-32 16	10.4	9.3	F5	3	..	40279b
44	4010	41.8	-11 55	8.1	8.9	G5	7	..	40580b	94	10422	42.1	-36 15	10.2	10.2	Go	1	..	14367b
45	11960	41.8	-29 6	10.9	10.2	Ko	1	..	40085b	95	10395	42.1	-46 43	8.3	8.4	A2	6	..	42502b
46	11961	41.8	-29 12	10.4	10.2	Ko	1	..	40085b	96	10342	42.1	-47 28	11.0	10.2	Ao	2	..	42502b
47	11963	41.8	-29 26	9.7	9.9	Ko	2	..	40085b	97	9871	42.1	-50 34	9.5	9.3	Go	2	..	19894b
48	12542	41.8	-30 41	9.5	10.2	Ko	1	..	40085b	98	6922	42.1	-56 22	10.4	10.4	Ao	2	..	37619b
49	12282	41.8	-31 56	8.3	9.6	K5	3	..	40279b	99	7259	42.1	-57 35	8.8	10.7	K5	1	..	37619b
50	10714	41.8	-33 12	8.2	9.6	K2	3	..	40279b	100	3150	42.1	-65 31	9.4	9.4	Ao	5	..	21785b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

141100

15<sup>h</sup> 42<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	788	42.1	-80 28	8.0	9.2	K5	2	..	13442b	51	6705	42.4	-54 27	9.2	9.2	A0	5	..	21734b
2	3084	42.2	+ 3 30	9.0	9.1	A2	4	..	16850b	52	7264	42.4	-57 21	8.7	8.7	B8	6	..	37619b
3	3401	42.2	+ 0 1	7.23	7.65	F5	4	3,8	38432i	53	1882	42.4	-73 2	9.2	9.2	A0	4	..	14146b
4	3007	42.2	- 0 19	9.13	9.91	G5	2	..	41188b	54	872	42.4	-79 19	8.9	9.5	Go	1	..	40252b
5	3008	42.2	- 0 45	8.5	9.3	G5	3	..	13412b	55	263	42.5	+85 9	6.98	7.98	Ko	7	0,7	37820i
6	4026	42.2	-23 4	9.4	9.3	Go	3	..	40284b	56	2266	42.5	+47 54	8.2	9.4	K5	2	..	38741i
7	11585	42.2	-28 29	7.6	8.2	F2	7	..	40085b	57	2912	42.5	+39 2	9.5	10.0	F8	2	..	38718i
8	11130	42.2	-32 40	10.4	9.0	A0	3	..	40279b	58	2776	42.5	+31 35	8.9	9.4	F8	3	..	38719i
9	10537	42.2	-34 5	8.6	9.3	Ko	4	..	40279b	59	2908	42.5	+10 47	8.7	9.5	G5	2	..	37689i
10	10536	42.2	-34 26	9.6	9.3	F2	3	..	40279b	60	2996	42.5	+ 2 43	9.3	10.4	K2	3	..	16850b
11	10423	42.2	-36 35	10.4	10.4	Go	2	..	37631b	61	4191	42.5	-15 35	9.2	9.6	F5	5	..	40580b
12	10424	42.2	-36 47	10.6	10.5	A2	1	..	37631b	62	4160	42.5	-16 18	8.7	9.8	K2	3	..	40580b
13	10172	42.2	-39 47	9.2	9.7	Go	3	..	21781b	63	4194	42.5	-21 52	9.9	10.5	F8	2	..	40284b
14	10256	42.2	-43 36	11.0	9.9	A3	3	..	21781b	64	12525	42.5	-23 32	6.66	6.5	A0	9	..	40284b
15	10258	42.2	-43 47	10.1	10.5	K5	2	..	21781b	65	9955	42.5	-40 34	9.8	10.5	K5	2	..	21781b
16	10238	42.2	-45 25	10.1	9.6	F8	3	..	42502b	66	10325	42.5	-41 29	8.3	7.7	B9	4	..	43284b
17	6722	42.2	-55 29	10.1	10.1	A0	3	..	37619b	67	10245	42.5	-45 47	10.1	9.9	B9	2	..	42502b
18	6721	42.2	-55 37	8.9	10.4	K5	2	5,2	21734b	68	8944	42.5	-52 54	5.96	6.7	B8	..	..	56,137
19	6924	42.2	-56 5	10.7	10.7	A0	1	..	37619b	69	6367	42.5	-58 25	9.0	9.3	A2	2	..	37619b
20	6357	42.2	-58 12	7.3	8.7	Ko	6	..	37619b	70	6368	42.5	-58 38	9.2	9.3	B8	3	..	37619b
21	6358	42.2	-59 55	9.8	9.8	A0	2	..	37619b	71	3697	42.5	-63 53	7.80	8.7	F8	7	..	21785b
22	4932	42.2	-62 33	9.2	9.2	A0	4	..	19750b	72	1673	42.5	-73 17	9.2	9.2	A0	3	..	14146b
23	2457	42.2	-69 45	9.6	9.7	A3	1	..	14146b	73	1591	42.6	+58 44	7.32	7.60	Fo	5	..	38767i
24	1672	42.2	-73 53	9.2	9.6	F5	3	..	14146b	74	1807	42.6	+53 0	7.9	8.9	Ko	4	..	38736i
25	2706	42.3	+30 5	9.6	9.9	F2	3	..	5402m	75	2913	42.6	+39 32	9.5	10.0	F8	2	..	38718i
26	2897	42.3	+12 39	9.1	9.7	Go	2	..	37689i	76	2965	42.6	+25 23	8.7	9.5	G5	3	..	38470i
27	2864	42.3	+11 50	7.54	7.60	A2	6	2,9	37689i	77	3132	42.6	+ 1 0	10.1	11.1	Ko	1	..	16850b
28	4233	42.3	- 9 11	6.89	7.31	F5	9	..	41242b	78	3076	42.6	- 5 1	8.85	9.63	G5	1	..	41188b
29	4336	42.3	-12 26	9.4	10.6	K5	1	..	40580b	79	4221	42.6	-20 6	8.63	9.6	Ko	2	..	40300b
30	4189	42.3	-15 29	9.9	10.0	A3	3	..	40580b	80	10575	42.6	-27 17	8.9	7.8	B9	8	..	40085b
31	12522	42.3	-23 22	9.7	10.2	Ko	2	..	40284b	81	12292	42.6	-31 31	9.7	9.7	Go	3	..	40279b
32	11043	42.3	-26 12	9.2	8.8	A2	5	0,4	40085b	82	10675	42.6	-38 26	9.2	10.5	Go	1	..	14367b
33	12288	42.3	-31 47	8.5	8.4	Fo	8	..	40279b	83	9879	42.6	-50 26	9.5	9.3	F5	2	..	19894b
34	10672	42.3	-38 18	8.0	10.0	K5	3	..	14367b	84	6931	42.6	-56 51	9.3	10.4	K2	3	..	37619b
35	10174	42.3	-39 5	9.5	10.2	A2	2	..	14367b	85	6365	42.6	-59 48	9.8	9.8	A0	3	..	37619b
36	8937	42.3	-52 16	8.1	7.7	B9	6	..	19894b	86	2645	42.7	+36 45	7.7	8.1	F5	7	..	38718i
37	6131	42.3	-60 27	9.5	9.5	B9	3	..	21769b	87	2939	42.7	+14 25	5.72	5.72	A0	10	0, R	38754i
38	5302	42.3	-61 37	9.3	9.8	F8	2	..	21769b	88	4427	42.7	-18 8	8.8	9.8	Ko	3	..	40300b
39	3696	42.3	-63 15	9.2	10.2	Ko	1	..	21769b	89	11044	42.7	-26 53	9.7	9.7	Ma	1	..	40085b
40	3151	42.3	-65 45	9.5	9.6	A3	4	..	21785b	90	11976	42.7	-29 10	8.2	8.4	A2	8	..	40085b
41	2575	42.3	-68 14	9.4	9.4	A0	3	..	14146b	91	10517	42.7	-37 57	9.8	10.2	F5	2	..	14367b
42	2911	42.4	+39 25	8.9	9.2	F2	4	..	38718i	92	10677	42.7	-38 46	9.5	10.0	A0	2	..	14367b
43	2710	42.4	+29 31	10.1	10.4	Fo	3	..	5402m	93	10404	42.7	-46 10	8.7	9.3	A2	4	..	42502b
44	3131	42.4	+ 1 51	6.66	7.66	Ko	10	..	16850b	94	10349	42.7	-48 37	6.02	7.0	A2	8	..	39069b
45	4337	42.4	-12 23	9.7	10.1	F5	2	..	40580b	95	10039	42.7	-49 51	9.9	8.9	B8	4	..	19894b
46	4425	42.4	-17 29	9.4	9.7	F2	3	..	40300b	96	9883	42.7	-50 14	8.90	8.9	B8	5	..	19894b
47	12299	42.4	-24 26	10.6	9.5	F5	1	..	40284b	97	9538	42.7	-51 5	9.9	8.9	B9	3	..	19894b
48	11974	42.4	-29 43	9.5	9.3	F5	4	..	40085b	98	8949	42.7	-52 25	8.1	8.3	A0	6	..	19894b
49	10428	42.4	-36 21	9.8	9.6	Go	2	..	14367b	99	8951	42.7	-52 30	9.5	9.5	A0	2	..	19894b
50	9529	42.4	-51 57	8.9	8.9	Ko	1	..	19894b	100	6932	42.7	-56 22	10.2	10.7	F8	1	..	37619b

## THE HENRY DRAPER CATALOGUE.

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15<sup>h</sup> 42<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6136	42.7	-60 46	9.0	9.8	G5	2	..	21769b	51	10579	43.0	-27 10	9.1	8.8	G5	3	..	40085b
2	3153	42.7	-65 45	9.4	9.4	B9	4	..	21785b	52	11597	43.0	-28 28	9.5	9.2	K5	1	..	40085b
3	1264	42.7	-75 11	8.31	8.4	A3	4	..	11726b	53	11984	43.0	-29 54	8.5	8.1	A2	7	..	40085b
4	2635	42.8	+42 46	7.42	8.42	Ko	7	..	38718i	54	10679	43.0	-38 28	8.2	9.3	F5	5	..	14367b
5	2635	42.8	+41 26	9.4	9.7	F2	2	..	38718i	55	10180	43.0	-39 56	11.1	10.2	K2	2	..	21781b
6	2915	42.8	+39 9	8.6	9.6	Ko	4	..	38718i	56	10358	43.0	-48 3	10.1	10.2	A2	2	..	42502b
7	3062	42.8	+4 36	7.20	8.20	Ko	6	..	13817b	57	10355	43.0	-48 44	7.2	8.1	Ko	5	..	39069b
8	3061	42.8	+3 51	8.0	9.0	Ko	5	..	13817b	58	8959	43.0	-52 12	8.8	9.0	G5	1	..	19894b
9	3133	42.8	+0 59	9.5	10.9	Mb	2	..	16850b	59	6936	43.0	-56 59	9.5	10.7	K5	1	..	37619b
10	11138	42.8	-32 18	9.6	9.9	K2	2	..	39928b	60	5312	43.0	-61 33	8.8	9.6	G5	2	..	21769b
11	10526	42.8	-35 43	8.6	9.3	Ao	4	..	40279b	61	2973	43.0	-67 20	7.6	7.7	A3	9	..	21785b
12	10520	42.8	-37 33	9.2	9.3	Ao	6	..	14367b	62	2579	43.0	-68 52	9.4	9.4	Ao	3	..	14146b
13	10336	42.8	-41 28	10.4	10.2	Ko	2	..	21781b	63	264	43.1	+85 1	8.93	9.93	K	1	..	37820i
14	10405	42.8	-46 43	10.1	9.6	Ao	2	..	42502b	64	915	43.1	+67 49	8.4	9.4	Ko	2	..	38737i
15	6934	42.8	-57 0	9.0	9.2	A2	4	..	37619b	65	2698	43.1	+38 38	var.	var.	Mc	..	R	M
16	6375	42.8	-58 35	9.1	9.5	F5	2	..	37619b	66	2674	43.1	+37 5	9.2	10.0	G5	2	..	38718i
17	6138	42.8	-60 9	9.59	9.6	A5	3	..	37619b	67	2726	43.1	+34 55	9.02	9.80	G5	1	E	38719i
18	523	42.9	+80 56	6.97	7.75	G5	5	5,8	37240i	68	2779	43.1	+30 52	7.64	7.64	Ao	9	..	38719i
19	2777	42.9	+31 8	8.8	8.9	A5	4	..	38719i	69	2538	43.1	+27 31	8.09	9.16	K2	3	..	38719i
20	3018	42.9	+19 7	8.5	9.6	K2	4	..	37751i	70	2728	43.1	+26 10	9.1	10.3	K5	3	..	5402m
21	4252	42.9	-13 12	7.02	8.02	Ko	8	..	40580b	71	3086	43.1	+3 44	8.6	8.9	Fo	6	..	13817b
22	4192	42.9	-15 14	9.46	10.46	Ko	3	..	40580b	72	3001	43.1	+1 53	7.9	8.7	G5	7	..	16850b
23	4193	42.9	-15 27	9.4	10.2	G5	2	..	40580b	73	4105	43.1	-7 24	10.1	10.6	F8	2	..	41242b
24	4167	42.9	-18 55	8.8	9.8	Ko	3	..	40300b	74	4329	43.1	-20 9	7.93	9.3	Ma	5	..	40300b
25	4224	42.9	-19 51	9.9	10.2	G5	1	..	40300b	75	11146	43.1	-32 55	9.5	9.7	G5	3	..	40279b
26	4328	42.9	-20 55	8.6	9.7	K5	2	..	40300b	76	10434	43.1	-36 19	8.2	10.2	K2	2	..	14367b
27	12527	42.9	-23 23	9.2	9.0	F8	4	..	40284b	77	10182	43.1	-39 7	10.9	10.8	Go	1	..	37631b
28	10577	42.9	-27 59	9.2	9.5	K5	1	..	40085b	78	10408	43.1	-46 20	9.9	9.6	Go	2	..	42502b
29	12300	42.9	-31 21	10.2	10.2	Ko	1	..	40279b	79	10043	43.1	-49 13	9.0	8.9	F8	4	..	19894b
30	11141	42.9	-32 15	10.6	10.0	Ko	1	..	39928b	80	8965	43.1	-52 42	9.6	9.6	Ao	2	..	19894b
31	10178	42.9	-39 8	10.2	10.5	Go	2	..	37631b	81	6709	43.1	-54 20	9.1	10.1	Ko	2	..	21734b
32	9961	42.9	-40 33	10.2	10.5	K5	1	..	21781b	82	7271	43.1	-58 4	8.8	10.4	K5	1	..	37619b
33	10406	42.9	-46 49	10.3	9.6	A2	3	..	42502b	83	3154	43.1	-65 51	9.3	9.6	F2	3	..	21785b
34	9886	42.9	-50 27	8.7	9.3	G5	2	..	19894b	84	2581	43.1	-68 16	9.4	9.9	F8	2	..	14146b
35	6376	42.9	-58 11	8.5	8.6	B8	5	..	37619b	85	1086	43.2	+64 48	8.80	9.80	Ko	3	..	37746i
36	3281	42.9	-64 37	8.5	9.7	K5	3	0,1	21785b	86	2474	43.2	+28 37	10.3	11.1	G5	2	..	5402m
37	1674	42.9	-73 9	8.6	8.9	F2	6	..	14146b	87	2473	43.2	+28 35	9.76	10.32	Go	2	..	5402m
38	1502	42.9	-74 13	8.8	9.6	G5	4	..	14146b	88	2539	43.2	+27 7	9.9	11.0	K2	2	..	5402m
39	1175	42.9	-77 51	8.3	8.3	Ao	3	..	40252b	89	3019	43.2	+19 37	8.7	9.5	G5	2	..	37720i
40	590	42.9	-83 29	8.5	8.5	Ao	3	..	22577b	90	3098	43.2	+6 43	9.3	9.8	F8	1	..	13817b
41	1632	43.0	+60 21	9.1	9.2	A3	2	..	38764i	91	4429	43.2	-17 43	9.7	10.5	G5	2	..	37760b
42	1674	43.0	+59 44	9.01	9.09	A3	1	..	38764i	92	4226	43.2	-19 31	8.9	11.0	Ma	1	..	40300b
43	1775	43.0	+55 33	7.9	9.1	K5	3	..	38736i	93	4196	43.2	-22 0	9.1	10.0	G5	3	5,3	40284b
44	2329	43.0	+45 19	7.92	8.92	Ko	4	..	38718i	94	10532	43.2	-35 34	8.2	9.3	F5	4	..	40279b
45	2713	43.0	+29 24	8.80	9.98	K5	2	..	38719i	95	10814	43.2	-42 21	7.7	8.4	A5	8	..	21781b
46	2537	43.0	+27 49	9.1	9.9	G5	5	..	5402m	96	10251	43.2	-45 6	6.21	7.3	A5	..	0,7	56,137
47	3977	43.0	-4 29	7.9	8.5	Go	5	..	41188b	97	10410	43.2	-46 43	7.9	8.7	Ko	5	..	42502b
48	4281	43.0	-6 48	10.1	10.2	A2	2	..	41242b	98	6710	43.2	-54 41	9.2	9.5	Ao	3	..	21734b
49	4428	43.0	-18 7	10.3	10.4	A3	2	..	40300b	99	6386	43.2	-58 15	10.0	10.0	Ao	1	..	37619b
50	4169	43.0	-19 7	9.9	10.2	G5	2	..	37760b	100	6371	43.2	-59 39	9.5	9.5	Ao	4	..	37619b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

141300

15<sup>h</sup> 43<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	5315	43.2	-61 27	9.1	8.9	Ao	6	..	21769b	51	2707	43.6	+30 8	9.5	10.5	Ko	1	..	38719i
2	4959	43.2	-62 19	8.7	9.8	K2	1	..	21769b	52	2475	43.6	+28 46	7.43	7.77	F2	7	..	38719i
3	1928	43.2	-71 23	7.8	7.9	A2	8	..	14146b	53	2940	43.6	+14 6	6.10	7.10	Ko	7	0,6	38754i
4	2215	43.3	+50 4	8.2	9.3	K2	2	..	38736i	54	3010	43.6	+13 27	8.4	9.0	Go	3	..	38754i
5	2916	43.3	+39 31	9.5	10.9	Ma	..	..	M	55	3032	43.6	+7 6	8.9	9.9	Ko	3	..	13817b
6	2686	43.3	+34 16	9.5	10.3	G5	2	..	38719i	56	4111	43.6	-7 38	10.1	10.7	Go	2	..	41242b
7	2729	43.3	+26 50	9.6	10.6	Ko	3	..	5402m	57	4237	43.6	-9 43	9.1	9.9	G5	3	..	41242b
8	3100	43.3	-1 53	8.3	8.9	Go	5	..	41188b	58	4195	43.6	-15 47	10.1	10.7	Go	2	..	40580b
9	4108	43.3	-7 24	9.2	10.2	Ko	3	..	41242b	59	4227	43.6	-19 59	7.88	8.7	Ko	6	..	40300b
10	11048	43.3	-26 15	9.2	8.6	F5	4	..	40284b	60	11600	43.6	-28 37	8.7	9.5	K2	2	..	40085b
11	11599	43.3	-28 37	8.7	9.5	K5	1	..	40085b	61	12314	43.6	-31 50	8.5	9.3	Ko	4	..	40279b
12	12565	43.3	-30 46	7.6	9.3	K2	4	..	40085b	62	10442	43.6	-36 15	9.5	10.5	K2	1	..	14367b
13	12566	43.3	-30 58	8.7	8.8	F2	5	..	40085b	63	10823	43.6	-42 19	10.6	10.2	A3	2	..	21781b
14	10681	43.3	-38 56	9.6	10.5	Go	2	..	37631b	64	10820	43.6	-42 44	9.5	9.9	F8	3	..	21781b
15	10815	43.3	-42 41	10.1	9.9	G5	2	..	21781b	65	10285	43.6	-43 42	9.7	10.4	K2	2	..	21781b
16	10430	43.3	-44 49	10.1	9.9	Ao	3	..	42502b	66	10435	43.6	-44 16	8.4	8.5	G5	8	..	21781b
17	10358	43.3	-49 3	9.2	8.6	Ao	5	..	19894b	67	10366	43.6	-47 43	10.6	10.5	B9	1	..	42502b
18	6711	43.3	-54 45	5.84	6.6	B5	..	4,8	56,137	68	6942	43.6	-56 20	10.3	10.4	A2	2	..	37619b
19	6939	43.3	-56 49	10.4	10.4	Ao	1	..	37619b	69	6943	43.6	-56 49	9.9	9.9	Ao	2	..	37619b
20	6147	43.3	-60 29	9.5	9.5	Ao	3	..	21769b	70	6392	43.6	-58 5	9.1	9.0	Ao	4	..	37619b
21	6146	43.3	-61 0	9.5	9.8	Fo	2	..	21769b	71	4966	43.6	-62 39	8.8	9.8	Ko	1	..	21769b
22	1121	43.3	-76 56	9.1	9.5	F5	2	..	40252b	72	1903	43.7	+52 28	8.10	9.10	Ko	3	5,1	38736i
23	849	43.4	+68 40	8.0	9.0	Ko	1	..	37752i	73	2030	43.7	+51 5	8.6	9.6	Ko	2	..	38736i
24	4194	43.4	-15 14	var.	var.	A5	2	R	40580b	74	2106	43.7	+46 36	7.8	8.9	K2	3	..	38741i
25	4171	43.4	-18 24	8.1	8.9	G5	6	..	40300b	75	2540	43.7	+27 1	9.5	9.6	A5	3	..	5402m
26	11987	43.4	-29 57	9.14	9.3	F2	4	..	40085b	76	2730	43.7	+26 47	9.9	10.7	G5	2	..	5402m
27	11150	43.4	-32 30	7.36	7.7	B9	9	..	40279b	77	3011	43.7	-0 42	7.01	8.36	Ma	5	..	13412b
28	10533	43.4	-35 55	10.6	10.5	Go	2	..	37631b	78	3829	43.7	-3 31	5.61	5.69	A3	..	1,9-	56,92
29	10414	43.4	-46 24	10.6	9.9	A2	2	..	42502b	79	4084	43.7	-8 57	8.7	9.7	Ko	4	..	41242b
30	8970	43.4	-52 25	9.2	9.0	A2	4	..	19894b	80	4162	43.7	-17 6	11.0	11.1	A2	2	..	37760b
31	6373	43.4	-59 45	10.1	10.1	Ao	1	..	37619b	81	4229	43.7	-19 19	11.0	11.0	A3	1	..	37760b
32	4963	43.4	-62 9	9.2	9.2	Ao	3	..	21769b	82	10585	43.7	-27 34	8.3	8.3	Go	5	..	40085b
33	4964	43.4	-62 56	9.2	9.3	A2	3	..	19750b	83	12572	43.7	-30 11	9.44	9.6	F5	2	..	40085b
34	3699	43.4	-63 37	8.9	10.1	K5	1	..	21769b	84	10743	43.7	-33 50	9.8	9.0	Ao	4	..	40279b
35	1222	43.5	+63 11	8.8	9.6	G5	3	..	37746i	85	9973	43.7	-40 9	9.6	10.2	F8	2	..	21781b
36	1607	43.5	+57 34	7.88	8.30	F5	7	..	38767i	86	10287	43.7	-43 36	9.9	9.9	A3	3	..	21781b
37	11989	43.5	-29 7	9.7	8.7	A2	4	..	40085b	87	10437	43.7	-44 46	9.9	10.4	K2	1	..	42502b
38	10685	43.5	-38 37	9.6	10.8	G	2	R	14367b	88	10258	43.7	-46 1	8.6	8.7	Fo	5	..	42502b
39	10187	43.5	-39 20	8.9	9.3	F2	4	..	21781b	89	10364	43.7	-48 40	9.7	9.5	F5	2	..	42502b
40	10347	43.5	-41 36	8.9	8.7	F5	5	..	21781b	90	9905	43.7	-50 27	9.5	9.0	B8	3	..	19894b
41	10434	43.5	-44 24	9.2	8.7	Ao	8	..	21781b	91	8983	43.7	-53 2	8.9	9.6	Ko	1	..	19894b
42	10416	43.5	-46 45	11.0	9.7	B8	2	..	42502b	92	6731	43.7	-55 21	10.3	10.3	Ao	2	..	37619b
43	6715	43.5	-53 16	9.2	10.4	Ao	3	2,2	21734b	93	4967	43.7	-62 48	8.8	8.9	A2	4	..	19750b
44	2837	43.5	-66 20	9.1	9.6	F8	6	..	21785b	94	2458	43.7	-69 39	8.9	9.4	F8	3	..	14146b
45	1883	43.5	-72 5	9.4	9.4	Ao	3	..	14146b	95	2131	43.7	-70 30	9.8	9.9	A2	3	..	14146b
46	1076	43.6	+64 52	8.70	9.70	Ko	2	..	37746i	96	1884	43.7	-72 20	7.9	7.9	B9	9	..	14146b
47	2638	43.6	+42 1	8.1	8.4	F2	6	..	38718i	97	916	43.8	+67 37	8.9	9.2	F2	4	0,3	38764i
48	2731	43.6	+35 18	8.9	9.9	Ko	1	E	38719i	98	1675	43.8	+59 38	7.56	7.90	F2	4	0,3	38764i
49	2688	43.6	+34 12	8.9	10.0	K2	1	..	38719i	99	2267	43.8	+47 18	7.17	8.17	Ko	7	0,2-	38741i
50	2628	43.6	+32 46	9.1	10.2	K2	2	..	38719i	100	2675	43.8	+37 29	8.7	9.7	Ko	4	..	38718i

## THE HENRY DRAPER CATALOGUE.

141400

15<sup>h</sup> 43<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4240	43.8	— 9 53	10.6	10.6	A	1	..	41242b	51	3158	44.0	— 65 13	9.6	9.7	A2	2	..	21785b
2	4255	43.8	— 13 40	8.3	8.3	Ao	7	..	4058ob	52	3157	44.0	— 66 5	9.7	9.7	B9	3	..	21785b
3	4331	43.8	— 20 9	8.83	9.0	Ao	5	..	4030ob	53	2839	44.0	— 66 14	8.9	10.1	K5	2	..	21785b
4	4332	43.8	— 20 28	7.42	8.0	B8	8	..	4030ob	54	2334	44.1	+ 44 54	7.42	8.42	Ko	6	..	38718i
5	11116	43.8	— 25 26	11.4	10.0	A2	1	..	40284b	55	2676	44.1	+ 37 40	8.9	9.4	F8	2	..	38718i
6	10447	43.8	— 36 41	9.5	9.6	Ao	3	..	14367b	56	2631	44.1	+ 32 2	6.56	7.74	K5	5	0,3	38719i
7	10372	43.8	— 47 9	8.0	8.7	F8	5	..	42502b	57	2709	44.1	+ 30 19	9.2	10.0	G5	4	..	5402m
8	9557	43.8	— 51 29	9.3	9.2	K2	2	..	19894b	58	3012	44.1	+ 13 1	6.80	6.80	Ao	8	..	38754i
9	8984	43.8	— 52 32	9.0	9.2	Ao	3	..	19894b	59	3065	44.1	+ 4 21	9.0	9.4	F5	2	..	13817b
10	6396	43.8	— 58 5	9.1	10.4	Ma	1	..	37619b	60	3013	44.1	— 0 21	9.1	9.9	G5	3	..	41188b
11	4970	43.8	— 62 9	9.6	9.6	B8	2	..	21769b	61	3982	44.1	— 4 39	8.1	8.1	B9	6	0,3	41188b
12	3288	43.8	— 64 43	9.6	9.6	Ao	3	..	21785b	62	4112	44.1	— 7 54	9.7	10.3	G	1	..	41242b
13	3286	43.8	— 64 51	6.58	7.3	A3	..	..	56,137	63	4172	44.1	— 10 33	9.4	9.4	Ao	4	..	4058ob
14	2978	43.8	— 67 53	8.1	9.2	K2	3	..	14146b	64	4257	44.1	— 13 11	9.9	10.7	G5	2	..	4058ob
15	2582	43.8	— 68 32	9.0	9.4	F5	2	..	14146b	65	4431	44.1	— 17 36	6.69	7.03	F2	9	..	4030ob
16	1176	43.8	— 77 31	7.9	8.3	F5	3	..	40252b	66	4197	44.1	— 21 11	7.74	8.7	Ko	7	..	4030ob
17	2631	43.9	+ 33 19	8.1	9.2	K2	4	0,3	38719i	67	12315	44.1	— 24 49	10.2	9.5	Ao	2	..	40284b
18	2541	43.9	+ 27 43	9.6	10.2	Go	3	..	5402m	68	10424	44.1	— 46 11	8.7	9.0	B8	5	..	42502b
19	2731	43.9	+ 26 3	9.5	10.5	Ko	3	..	5402m	69	10423	44.1	— 46 26	10.1	9.9	A3	2	..	42502b
20	3088	43.9	+ 5 43	8.7	10.1	Mb	1	..	13817b	70	3159	44.1	— 65 54	9.4	10.6	K5	1	..	21785b
21	3134	43.9	+ 1 50	9.8	9.8	Ao	3	..	13412b	71	917	44.2	+ 67 6	9.0	9.1	A2	3	0,3	38737i
22	3405	43.9	+ 0 30	8.9	10.1	K5	1	..	16850b	72	1777	44.2	+ 55 47	5.90	6.97	K2	7	..	38736i
23	4051	43.9	— 2 56	8.3	8.3	Ao	6	..	41188b	73	1905	44.2	+ 52 18	8.17	8.67	F8	4	3,1	38736i
24	11054	43.9	— 26 18	9.7	9.7	G5	2	R	40284b	74	2425	44.2	+ 49 39	9.4	10.4	Ko	1	..	38766i
25	10690	43.9	— 26 18	9.7	9.7	G5	2	..	37631b	75	2715	44.2	+ 29 32	9.6	10.6	Ko	1	..	38719i
26	10190	43.9	— 40 0	9.48	9.6	F8	3	..	21781b	76	2883	44.2	+ 22 43	7.04	8.04	Ko	7	..	37751i
27	10293	43.9	— 43 36	9.9	10.7	G5	1	..	21781b	77	3074	44.2	+ 18 27	4.28	5.46	K5	..	0,R	1335c
28	10441	43.9	— 44 15	11.6	10.5	A2	1	..	21781b	78	3014	44.2	— 0 28	9.1	9.2	A2	3	..	41188b
29	2132	43.9	— 70 14	9.8	10.4	G	1	..	14146b	79	11056	44.2	— 27 4	11.4	9.4	Ao	2	..	40085b
30	1503	43.9	— 74 42	8.9	9.0	A5	3	..	11726b	80	12003	44.2	— 29 6	8.7	9.3	A2	5	..	40085b
31	874	43.9	— 79 53	8.0	8.3	Fo	3	..	13442b	81	12328	44.2	— 31 14	9.4	9.7	G5	2	..	40279b
32	2630	44.0	+ 32 37	9.5	10.5	Ko	1	..	38719i	82	10194	44.2	— 39 34	8.9	9.1	A2	4	..	21781b
33	2782	44.0	+ 31 41	9.5	10.3	G5	1	..	38719i	83	10299	44.2	— 43 59	9.7	10.4	A5	2	..	21781b
34	2734	44.0	+ 26 43	10.1	10.2	A2	2	..	5402m	84	10376	44.2	— 47 57	8.9	9.0	Ao	5	..	42502b
35	2733	44.0	+ 26 36	9.6	10.4	G5	2	..	5402m	85	10065	44.2	— 49 10	9.2	8.9	A2	3	..	19894b
36	2732	44.0	+ 26 14	10.1	11.2	K2	2	..	5402m	86	6735	44.2	— 56 3	9.0	9.2	B9	4	..	37619b
37	3103	44.0	— 1 41	7.7	7.7	Ao	5	..	13412b	87	6156	44.2	— 60 41	9.9	10.0	A2	2	..	21769b
38	4286	44.0	— 14 15	8.9	9.2	Fo	5	..	4058ob	88	4980	44.2	— 62 49	8.8	8.9	A3	6	..	19750b
39	4163	44.0	— 16 36	10.6	11.7	K2	1	..	37760b	89	2133	44.2	— 70 54	9.1	9.4	Fo	4	..	14146b
40	12314	44.0	— 24 51	9.4	8.8	A5	4	..	40284b	90	2735	44.3	+ 26 18	8.9	9.5	Go	6	R	5402m
41	11122	44.0	— 25 7	8.90	8.6	Ao	5	..	40284b	91	3086	44.3	+ 8 38	9.0	10.0	Ko	2	..	13817b
42	11055	44.0	— 27 2	10.4	9.1	Ko	1	..	40085b	92	3066	44.3	+ 4 2	8.7	9.0	F2	6	..	13817b
43	11605	44.0	— 28 24	8.7	8.6	Ao	4	..	40085b	93	4197	44.3	— 15 41	9.4	10.4	Ko	2	..	4058ob
44	11999	44.0	— 29 7	9.9	9.7	A3	2	..	40085b	94	4232	44.3	— 19 38	10.1	10.2	Go	2	..	4030ob
45	9978	44.0	— 40 14	10.6	10.2	A2	2	..	21781b	95	11123	44.3	— 25 14	9.30	8.8	Go	3	..	40284b
46	10419	44.0	— 46 7	9.2	9.9	G5	1	..	42502b	96	12005	44.3	— 29 14	10.4	10.8	Mb	..	..	M
47	10372	44.0	— 48 24	10.1	9.5	A2	3	..	42502b	97	10460	44.3	— 36 41	11.6	10.2	G5	2	..	37631b
48	8994	44.0	— 52 51	9.1	9.2	Ao	3	..	19894b	98	10694	44.3	— 39 2	9.6	9.9	A3	3	..	14367b
49	3291	44.0	— 64 42	8.2	8.2	B9	8	..	21785b	99	10829	44.3	— 42 6	9.9	10.2	F8	2	..	21781b
50										100	10830	44.3	— 42 49	10.3	9.6	Ao	4	..	21781b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

141500

15<sup>h</sup> 44<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10268	44.3	-45 25	9.5	10.4	K5	1	..	42502b	51	3037	44.6	+ 7 47	8.6	9.6	Ko	5	..	13817b
2	10377	44.3	-48 18	8.0	8.7	G5	4	..	42502b	52	4174	44.6	-10 46	8.8	9.8	Ko	4	..	40580b
3	3161	44.3	-65 29	9.0	10.2	K5	1	..	21785b	53	12544	44.6	-23 51	11.1	10.8	A3	1	..	40284b
4	2459	44.3	-69 16	8.7	9.5	G5	2	..	14146b	54	11125	44.6	-25 59	6.67	7.9	Ko	7	..	40284b
5	464	44.4	+82 9	8.8	9.8	Ko	2	..	37820i	55	11059	44.6	-26 14	8.5	8.8	G5	5	..	40284b
6	812	44.4	+68 59	7.21	7.27	A2	6	0,7	37752i	56	10754	44.6	-33 19	4.11	4.09	B9	..	R	28,210
7	1608	44.4	+57 5	8.2	9.2	Ko	5	..	38767i	57	10464	44.6	-36 53	9.3	9.3	F5	5	..	14367b
8	1769	44.4	+53 56	9.1	9.7	Go	2	..	38736i	58	10542	44.6	-37 33	10.2	10.9	Ko	1	..	37631b
9	2633	44.4	+32 13	9.1	9.4	Fo	5	..	38719i	59	10369	44.6	-42 0	8.6	8.2	B9	7	..	21781b
10	2710	44.4	+30 13	8.8	9.6	G5	2	..	38719i	60	10454	44.6	-44 12	9.7	9.7	G5	4	..	21781b
11	2909	44.4	+10 28	8.5	9.6	K2	2	..	13817b	61	10383	44.6	-47 5	8.9	9.9	Ko	2	..	42502b
12	3090	44.4	+ 5 21	8.6	9.6	Ko	7	..	13817b	62	9927	44.6	-50 50	7.8	7.7	B8	5	..	19894b
13	4052	44.4	- 3 7	3.63	3.63	Ao	..	R	2822c	63	6955	44.6	-56 38	8.3	8.6	B9	7	..	37619b
14	4260	44.4	-13 45	8.1	8.7	Go	7	..	40580b	64	1089	44.7	+64 36	8.4	9.5	K2	3	..	37746i
15	4432	44.4	-17 51	7.7	8.0	Fo	7	..	40300b	65	2330	44.7	+48 13	8.2	8.3	A3	5	..	38741i
16	4199	44.4	-21 58	10.1	10.0	A2	3	..	40284b	66	2925	44.7	+40 19	9.67	10.45	G5	1	..	38718i
17	12579	44.4	-30 51	9.9	9.9	Ko	1	..	40085b	67	2736	44.7	+26 45	10.8	11.4	Go	2	..	5402m
18	10751	44.4	-33 22	8.2	8.4	F2	5	..	40279b	68	3088	44.7	+ 8 14	9.3	10.4	K2	1	..	13817b
19	10537	44.4	-37 34	9.2	9.1	Ao	6	..	14367b	69	3833	44.7	- 3 37	6.94	6.92	B9	5	1,7	19953b
20	9985	44.4	-40 17	9.2	9.9	Ko	3	..	21781b	70	4089	44.7	- 9 8	8.7	9.7	Ko	3	..	41242b
21	10366	44.4	-42 1	10.4	10.0	G5	3	..	21781b	71	4243	44.7	- 9 49	9.4	9.9	F8	2	..	41242b
22	6394	44.4	-59 48	9.7	9.6	B5	2	..	37619b	72	4434	44.7	-17 16	9.7	10.3	Go	2	..	40300b
23	4982	44.4	-62 32	9.7	9.8	A2	1	..	21769b	73	4234	44.7	-19 37	10.1	11.1	G5	1	..	37760b
24	1930	44.4	-71 58	9.7	10.2	F8	1	..	14146b	74	4336	44.7	-20 25	9.7	10.8	F8	2	..	37760b
25	2110	44.5	+46 3	6.84	7.91	K2	4	..	38496i	75	4335	44.7	-20 33	8.2	8.1	A2	7	..	40300b
26	2701	44.5	+38 18	9.1	9.6	F8	3	..	38718i	76	12011	44.7	-29 12	9.4	9.0	Ao	5	..	40085b
27	2477	44.5	+28 28	var.	var.	Gop	..	0,8R	56,92	77	12012	44.7	-29 56	9.24	10.2	G5	2	..	40085b
28	2543	44.5	+27 10	10.3	11.1	G5	2	..	5402m	78	10465	44.7	-36 51	9.8	9.6	A3	3	..	14367b
29	2862	44.5	+23 34	7.72	8.22	F8	5	..	37751i	79	10543	44.7	-37 39	10.9	10.9	F8	1	..	37631b
30	2911	44.5	+10 23	8.0	8.3	Fo	4	..	38754i	80	10836	44.7	-42 42	9.2	9.3	A2	5	..	21781b
31	2910	44.5	+ 9 56	8.97	10.04	K2	1	..	13817b	81	6741	44.7	-55 15	8.3	9.5	Ko	4	..	37619b
32	4088	44.5	- 8 11	9.2	10.2	Ko	2	..	41242b	82	6957	44.7	-56 57	8.6	8.9	B9	5	..	37619b
33	4433	44.5	-17 56	9.9	10.7	G5	3	..	37760b	83	6407	44.7	-58 46	7.3	8.0	F8	8	..	37619b
34	4033	44.5	-22 35	9.1	10.0	Ko	2	..	40284b	84	6158	44.7	-60 55	9.8	9.8	Ao	1	..	37619b
35	12581	44.5	-30 19	8.5	9.4	G5	3	..	40085b	85	4990	44.7	-62 19	6.18	8.0	Ko	10	..	21769b
36	10552	44.5	-34 45	8.2	8.4	F5	6	..	40279b	86	3708	44.7	-63 43	9.4	9.4	Ao	4	..	21769b
37	10539	44.5	-37 28	8.6	9.9	Ko	3	..	14367b	87	3162	44.7	-65 51	9.4	10.2	G5	2	..	21785b
38	9988	44.5	-40 45	10.9	10.4	G5	1	..	21781b	88	850	44.8	+68 28	9.4	10.5	K2	1	..	37752i
39	9990	44.5	-41 3	9.6	9.6	Ao	4	..	21781b	89	2904	44.8	+12 52	6.75	7.75	Ko	5	0,5	38754i
40	10304	44.5	-43 29	9.9	10.8	Ko	1	..	21781b	90	4171	44.8	- 5 12	9.35	10.35	Ko	1	..	41188b
41	10305	44.5	-43 49	9.9	10.7	K5	2	..	21781b	91	4014	44.8	-11 17	8.3	8.7	F5	6	..	40580b
42	10451	44.5	-44 19	9.5	9.3	Ao	7	..	21781b	92	4198	44.8	-15 44	10.1	11.3	K5	1	..	37760b
43	10274	44.5	-45 28	9.7	10.2	K2	1	..	42502b	93	4164	44.8	-17 3	8.3	9.5	K5	4	..	40300b
44	10430	44.5	-46 46	6.12	7.6	Ko	6	0,9-	36521b	94	4436	44.8	-17 17	9.4	9.7	Fo	3	..	40300b
45	9570	44.5	-51 19	7.5	7.7	B8	7	..	19894b	95	..	44.8	-17 25	..	..	A3	2	..	37760b
46	3293	44.5	-64 23	8.9	9.9	Ko	1	..	21785b	96	4236	44.8	-19 46	10.3	11.6	Go	1	..	37760b
47	2134	44.5	-70 50	9.2	9.7	F8	2	..	14146b	97	4034	44.8	-22 58	7.40	7.9	F8	7	..	40284b
48	1078	44.6	+65 21	9.7	10.9	K5	1	..	37746i	98	12546	44.8	-23 42	9.1	9.0	G5	4	..	40284b
49	1907	44.6	+52 23	8.60	8.88	Fo	3	..	38736i	99	12013	44.8	-29 47	8.5	8.8	G5	6	..	40085b
50	2217	44.6	+50 12	8.2	8.7	F8	1	..	38736i	100	10371	44.8	-41 29	10.2	10.2	F8	1	..	21781b

## THE HENRY DRAPER CATALOGUE.

141600

15<sup>h</sup> 44<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10458	44.8	-45 1	9.2	9.7	K5	2	..	42502b	51	3712	45.0	-63 50	8.3	9.7	Ma	2	..	21769b
2	10436	44.8	-46 14	8.9	9.9	Ko	1	..	42502b	52	487	45.1	+80 18	6.93	7.27	F2	6	..	37240i
3	9011	44.8	-53 1	9.5	9.5	B9	1	..	19894b	53	1225	45.1	+62 55	5.13	5.19	A2	..	2,10	56,92
4	6726	44.8	-54 9	9.8	9.9	A2	3	..	19894b	54	1812	45.1	+53 17	9.1	10.3	K5	1	..	38736i
5	6958	44.8	-56 38	8.6	8.4	B9	6	..	37619b	55	2785	45.1	+31 30	9.5	10.5	Ko	1	..	38719i
6	6159	44.8	-60 26	8.9	9.5	Ko	3	..	21769b	56	2718	45.1	+28 53	9.33	10.40	K2	1	..	38719i
7	2926	44.9	+40 39	8.5	9.0	F8	4	..	38718i	57	4055	45.1	-2 44	8.7	9.0	F2	3	..	41188b
8	2717	44.9	+28 57	9.56	10.63	K2	1	..	5402m	58	4344	45.1	-12 47	10.1	10.7	G	1	..	40580b
9	3087	44.9	+3 6	7.9	9.0	K2	2	..	13412b	59	4345	45.1	-12 52	10.1	10.9	G5	1	..	40580b
10	3004	44.9	+2 49	7.04	7.10	A2	7	..	13412b	60	4346	45.1	-13 5	8.9	9.7	G5	5	..	40580b
11	3407	44.9	+0 4	9.8	10.9	K2	1	..	41188b	61	4200	45.1	-15 40	9.4	10.4	Ko	2	..	40300b
12	4287	44.9	+6 14	9.7	10.3	Go	1	..	41242b	62	4202	45.1	-22 4	9.7	10.8	G5	1	..	40284b
13	4342	44.9	-12 21	9.4	10.4	Ko	3	..	40580b	63	11616	45.1	-28 5	9.1	9.5	Ko	1	..	40085b
14	4262	44.9	-14 7	9.9	10.0	A2	2	..	40580b	64	12017	45.1	-29 23	9.4	9.4	F5	3	..	40085b
15	4437	44.9	-18 0	9.1	10.2	K2	1	..	40300b	65	10548	45.1	-37 52	8.3	10.2	Mb	3	..	37631b
16	4177	44.9	-18 10	9.9	11.0	K2	1	..	40300b	66	10197	45.1	-39 17	9.2	9.1	B8	4	..	21781b
17	4178	44.9	-18 25	9.4	10.5	K2	1	..	40300b	67	10389	45.1	-47 53	8.9	8.7	B8	5	..	42502b
18	11130	44.9	-25 17	10.4	9.5	F8	2	..	40284b	68	10082	45.1	-49 19	9.5	8.9	Ao	3	..	19894b
19	11176	44.9	-33 2	10.4	10.2	Ko	1	..	39928b	69	6415	45.1	-58 12	9.8	9.8	Ao	2	..	37619b
20	9996	44.9	-40 37	10.4	10.5	A2	1	..	21781b	70	3164	45.1	-65 6	9.1	9.6	F8	4	..	21785b
21	10460	44.9	-44 48	9.1	8.4	A3	8	..	21781b	71	2583	45.1	-68 35	9.9	10.0	A2	1	..	14146b
22	6959	44.9	-56 14	9.8	9.8	Ao	2	..	37619b	72	1506	45.1	-74 13	9.0	9.6	Go	4	..	14146b
23	6411	44.9	-58 46	8.6	9.8	K5	2	..	37619b	73	919	45.2	+66 11	9.0	10.1	K2	2	..	37746i
24	6160	44.9	-61 4	8.5	8.6	Go	6	..	21769b	74	1610	45.2	+56 56	9.9	10.3	F5	1	..	38767i
25	4992	44.9	-62 53	8.3	9.3	Ko	2	..	19750b	75	1779	54.2	+55 41	5.79	5.85	A2	10	..	38736i
26	3711	44.9	-63 44	9.7	9.7	A	1	..	21769b	76	2218	45.2	+50 19	8.02	9.09	K2	3	..	38736i
27	1064	44.9	-78 51	9.2	9.5	F2	1	..	40252b	77	2641	45.2	+42 39	8.8	9.6	G5	3	..	38718i
28	918	45.0	+65 53	8.3	8.8	F8	5	..	37746i	78	..	45.2	+36 33	var.	var.	Md	..	R	M
29	2635	45.0	+33 7	9.1	10.3	K5	1	..	38719i	79	2691	45.2	+33 58	9.9	10.4	F8	2	..	38719i
30	2784	45.0	+31 48	9.5	10.3	G5	2	..	38719i	80	3007	45.2	+2 30	5.33	6.33	Ko	8	0, R	38432i
31	2869	45.0	+11 6	9.1	10.2	K2	1	..	13817b	81	4174	45.2	-5 50	9.7	10.5	G5	1	..	41242b
32	2912	45.0	+10 15	8.7	9.2	F8	3	..	13817b	82	4438	45.2	-17 44	8.9	10.0	K2	3	..	40300b
33	3005	45.0	+2 3	9.1	10.1	Ko	1	..	13412b	83	4036	45.2	-22 19	7.60	8.1	F5	7	..	40300b
34	4199	45.0	-15 55	10.3	11.5	K5	1	..	37760b	84	11180	45.2	-32 26	8.9	9.0	K2	2	..	40279b
35	4165	45.0	-16 57	10.6	11.2	Go	2	..	37760b	85	10551	45.2	-37 49	9.2	9.6	Go	3	..	14367b
36	12327	45.0	-24 45	8.9	9.2	Ko	2	..	40284b	86	10318	45.2	-43 25	11.0	10.5	G5	2	..	21781b
37	11131	45.0	-25 27	4.77	4.60	B3	..	0, R	28,210	87	10462	45.2	-44 59	6.73	7.6	Ko	..	0,3	56,137
38	11061	45.0	-26 30	9.5	9.5	Ko	1	..	40284b	88	6167	45.2	-60 37	9.7	9.8	A3	2	..	21769b
39	12016	45.0	-30 1	10.9	9.9	Ao	2	..	40085b	89	5351	45.2	-61 22	9.5	9.5	B8	2	..	37619b
40	12594	45.0	-30 18	9.7	9.7	F8	1	..	40085b	90	2973	45.3	+25 46	8.3	9.1	G5	2	..	38470i
41	12337	45.0	-31 12	8.5	8.5	B8	6	..	40085b	91	2926	45.3	+24 0	7.74	8.52	G5	4	..	37751i
42	10468	45.0	-36 54	10.9	10.5	F5	1	..	37631b	92	2946	45.3	+14 23	7.59	8.09	F8	7	..	38754i
43	10546	45.0	-37 8	7.32	8.1	Ko	7	..	14367b	93	3103	45.3	+6 16	7.9	7.9	Ao	10	..	13817b
44	10841	45.0	-42 32	10.6	10.8	Ma	..	..	M	94	3106	45.3	-1 56	9.1	9.5	F5	1	..	41188b
45	10278	45.0	-45 12	7.72	7.7	B9	3	..	43284b	95	4239	45.3	-19 42	9.2	9.1	A2	5	..	40300b
46	6724	45.0	-53 9	7.7	8.9	Ko	4	..	19894b	96	4338	45.3	-20 40	9.4	9.7	A2	4	..	37760b
47	6723	45.0	-53 57	7.43	8.9	K5	5	..	19894b	97	12599	45.3	-30 24	7.9	8.5	Go	6	..	40085b
48	7286	45.0	-57 17	8.1	9.3	K5	4	..	37619b	98	11182	45.3	-32 23	7.13	8.1	Ko	7	..	40279b
49	6413	45.0	-58 46	9.3	9.3	B9	3	..	37619b	99	11183	45.3	-32 53	10.2	10.5	Ko	1	..	39928b
50	3713	45.0	-63 6	9.0	9.0	Ao	5	..	19750b	100	10006	45.3	-40 12	10.2	10.0	G5	2	..	21781b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

141700

15<sup>h</sup> 45<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10380	45.3	-42 3	10.0	9.9	Ao	3	..	21781b	51	2478	45.6	+28 36	10.3	10.9	Go	3	..	5402m
2	10847	45.3	-42 17	8.3	8.7	Go	6	..	21781b	52	..	45.6	+28 32	..	..	G5	2	..	5402m
3	10389	45.3	-48 57	9.3	9.5	G5	2	..	42502b	53	3154	45.6	+20 1	8.15	8.93	G5	2	..	37751i
4	9935	45.3	-51 1	9.3	8.4	Ao	3	..	19894b	54	4178	45.6	-6 1	8.5	9.1	Go	4	..	41242b
5	9583	45.3	-52 2	8.7	8.6	Fo	4	..	19894b	55	4179	45.6	-18 57	10.1	11.2	K2	1	..	37760b
6	6726	45.3	-53 31	8.1	9.2	K2	4	..	19894b	56	11625	45.6	-28 27	9.5	9.2	G	2	..	40085b
7	6728	45.3	-53 37	8.5	8.6	A2	7	..	19894b	57	12601	45.6	-30 56	9.5	9.3	Ko	3	..	40085b
8	6747	45.3	-55 16	10.1	10.1	B9	3	..	37619b	58	10765	45.6	-33 29	10.6	10.2	Ko	2	..	39928b
9	2460	45.3	-69 12	9.8	9.9	A2	2	..	14146b	59	10563	45.6	-34 32	9.0	9.3	F2	4	..	40279b
10	1885	45.3	-72 31	8.3	9.1	G5	5	..	14146b	60	10201	45.6	-39 23	8.6	8.8	A3	5	..	21781b
11	1831	45.4	+56 25	9.4	10.2	G5	2	..	38767i	61	10016	45.6	-40 18	9.6	9.3	Ao	4	..	21781b
12	2032	45.4	+51 16	8.0	9.0	Ko	3	..	38736i	62	10015	45.6	-41 2	8.9	9.3	Fo	6	..	21781b
13	2544	45.4	+27 10	10.1	11.1	Ko	1	..	5402m	63	10326	45.6	-43 35	9.0	8.7	A3	7	..	21781b
14	2737	45.4	+26 23	4.73	5.51	G5	10	0.9R	38719i	64	10467	45.6	-44 51	9.5	9.4	Ko	4	..	21781b
15	3008	45.4	+2 7	8.5	9.1	Go	4	..	13412b	65	10089	45.6	-49 19	8.7	8.1	Ao	4	..	19894b
16	4288	45.4	-6 57	9.4	10.4	Ko	1	..	41242b	66	6971	45.6	-56 57	10.2	10.2	B9	1	..	37619b
17	4176	45.4	-10 25	8.9	9.4	F8	5	..	40580b	67	2585	45.6	-68 19	5.20	6.6	Ko	..	R	56,137
18	4017	45.4	-11 43	9.4	10.4	Ko	2	..	40580b	68	1536	45.7	+61 19	8.1	8.6	F8	4	..	37746i
19	4166	45.4	-16 42	9.2	10.3	K2	3	..	40300b	69	2545	45.7	+27 37	8.9	9.4	F8	3	..	38719i
20	12342	45.4	-31 7	9.7	10.0	Ko	1	..	40085b	70	3412	45.7	+0 11	8.9	9.9	Ko	4	..	41188b
21	11186	45.4	-32 8	10.4	10.2	Ko	1	..	39928b	71	4246	45.7	-9 36	9.7	10.2	F8	2	..	41242b
22	10553	45.4	-37 21	10.6	10.8	Ko	2	R	37631b	72	4180	45.7	-18 47	10.3	10.4	A2	2	..	37760b
23	10444	45.4	-46 49	10.6	9.9	Ao	2	..	42502b	73	4241	45.7	-19 22	10.3	10.5	A2	1	..	40300b
24	9939	45.4	-50 19	6.42	7.7	K2	5	..	19894b	74	4343	45.7	-20 16	7.28	8.0	B9	8	..	40300b
25	9938	45.4	-50 34	9.9	9.0	B9	2	..	19894b	75	4344	45.7	-20 36	9.1	10.7	Ko	2	..	37760b
26	2584	45.4	-68 25	8.4	8.5	A2	5	..	14146b	76	4040	45.7	-23 0	10.6	12.0	Ma	..	..	M
27	1931	45.4	-71 43	9.4	10.2	G5	1	..	14146b	77	11143	45.7	-25 20	9.7	8.8	F8	4	..	40284b
28	1932	45.4	-71 49	9.6	10.0	F5	1	..	14146b	78	10547	45.7	-35 57	10.21	10.2	F5	3	..	37631b
29	1635	45.5	+59 54	6.81	7.81	Ko	7	..	37746i	79	10202	45.7	-39 13	7.8	8.1	A2	7	..	21781b
30	1678	45.5	+59 48	7.86	8.28	F5	3	..	37746i	80	10853	45.7	-42 18	9.7	10.0	Ko	3	..	21781b
31	2739	45.5	+26 49	9.6	10.4	G5	3	..	5402m	81	9029	45.7	-52 59	9.4	9.5	A2	1	..	19894b
32	2738	45.5	+25 58	8.5	9.3	G5	1	..	38470i	82	6732	45.7	-53 55	8.2	8.5	B8	5	..	19894b
33	2913	45.5	+10 12	9.5	10.6	K2	1	..	13817b	83	7296	45.7	-57 37	8.9	9.1	B3	4	..	37619b
34	3104	45.5	+9 41	10.5	10.9	F5	1	..	13817b	84	6411	45.7	-59 20	9.3	9.3	Ao	3	..	37619b
35	4092	45.5	-8 43	9.2	9.8	Go	3	..	41242b	85	5002	45.7	-62 44	9.7	9.8	A2	2	..	21769b
36	4178	45.5	-10 41	8.1	9.3	K5	5	..	40580b	86	3717	45.7	-63 57	9.3	9.7	F5	2	..	21769b
37	4039	45.5	-22 17	8.8	10.0	K2	3	..	40284b	87	2462	45.7	-69 43	8.4	9.4	Ko	3	..	14146b
38	12329	45.5	-24 33	10.9	12.3	Mb	..	..	M	88	2135	45.7	-70 52	9.3	9.4	A5	4	..	14146b
39	12343	45.5	-31 40	9.2	9.3	Ao	4	..	40279b	89	1934	45.7	-71 40	8.2	9.4	K5	3	..	14146b
40	10472	45.5	-36 24	8.9	9.0	A2	7	..	14367b	90	447	45.8	+83 8	9.1	10.2	K2	2	..	37820i
41	10555	45.5	-37 32	8.2	9.3	G5	4	..	14367b	91	2928	45.8	+39 59	8.36	8.36	Ao	7	..	38718i
42	10322	45.5	-43 21	9.1	9.6	Ko	4	..	21781b	92	2786	45.8	+31 36	9.1	9.9	G5	1	..	38719i
43	10392	45.5	-48 32	7.6	8.9	K2	4	..	42502b	93	2479	45.8	+28 10	10.8	11.9	K2	1	..	5402m
44	10086	45.5	-49 55	8.7	7.9	A2	4	..	19894b	94	2741	45.8	+26 29	8.6	9.0	F5	7	..	5402m
45	9023	45.5	-52 33	9.2	9.8	K2	2	..	19344b	95	3069	45.8	+4 47	3.75	3.81	A2	..	R	2007c
46	9025	45.5	-52 50	9.3	9.3	Ao	2	..	19894b	96	3022	45.8	-0 39	8.7	9.7	Ko	4	..	41188b
47	3165	45.5	-65 37	8.2	8.8	Go	8	..	21785b	97	4094	45.8	-9 2	8.6	8.7	A2	6	..	41242b
48	3166	45.5	-65 54	10.4	10.5	A2	1	..	21785b	98	4350	45.8	-12 19	8.3	8.4	A5	6	..	40580b
49	139	45.5	-88 40	10.2	10.3	A3	2	..	22980b	99	11190	45.8	-32 52	10.4	11.6	K5	1	..	39928b
50	920	45.6	+66 10	8.1	8.2	A3	6	..	37746i	100	10548	45.8	-36 0	9.83	9.9	Fo	3	..	14367b



## THE HENRY DRAPER CATALOGUE.

141800

15<sup>h</sup> 45<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10560	45.8	-37 22	9.5	9.6	F8	4	..	14367b	51	4058	46.1	- 2 48	5.16	5.22	A2	..	o, R	56,137
2	10709	45.8	-38 52	9.6	10.5	Go	2	..	14367b	52	4179	46.1	-10 33	9.4	10.4	Ko	2	..	40580b
3	10288	45.8	-45 30	9.0	9.6	F8	3	..	42502b	53	4269	46.1	-13 50	6.25	6.81	Go	10	..	40580b
4	6736	45.8	-53 52	8.7	9.4	G	2	..	19894b	54	4203	46.1	-15 37	9.4	10.6	K5	2	..	37760b
5	6173	45.8	-61 2	9.5	9.5	Ao	3	..	21769b	55	11149	46.1	-25 50	9.9	9.2	F5	4	..	40284b
6	5362	45.8	-61 14	9.0	9.5	F8	2	..	21769b	56	10291	46.1	-45 56	9.1	9.6	G5	2	..	42502b
7	2136	45.8	-70 30	8.4	8.8	F5	7	..	14146b	57	6758	46.1	-55 36	9.6	9.7	A5	2	..	37619b
8	1886	45.8	-72 49	9.7	9.8	A5	3	..	14146b	58	6986	46.1	-56 55	10.2	10.2	Ao	1	..	37619b
9	2720	45.9	+28 58	10.3	10.4	A5	3	..	5402m	59	6182	46.1	-60 24	9.2	9.2	B8	3	..	21769b
10	2481	45.9	+28 48	10.3	10.9	Go	3	..	5402m	60	3299	46.1	-64 8	9.6	9.7	A5	2	..	21769b
11	2546	45.9	+27 37	10.1	11.1	Ko	1	..	5402m	61	2985	46.1	-67 7	9.2	10.2	K	1	R	21785b
12	4182	45.9	-18 38	7.36	8.36	Ko	7	..	40300b	62	2464	46.1	-69 6	8.2	9.2	Ko	5	..	14146b
13	11147	45.9	-26 5	9.7	9.4	F8	3	..	40284b	63	2137	46.1	-70 38	8.2	8.5	F2	7	..	14146b
14	11195	45.9	-32 47	9.5	10.8	A2	1	..	39928b	64	1123	46.1	-76 20	9.0	9.6	Go	3	..	40252b
15	10768	45.9	-33 49	7.58	8.0	F5	7	..	40279b	65	2482	46.2	+28 25	10.8	11.3	F8	3	..	5402m
16	10549	45.9	-35 45	9.8	10.8	Ko	2	..	37631b	66	3043	46.2	+ 7 7	9.5	10.1	Go	1	..	13817b
17	10331	45.9	-43 52	9.1	9.7	Ko	3	..	21781b	67	11151	46.2	-26 1	10.4	9.2	F8	2	..	40284b
18	6741	45.9	-53 16	9.7	9.7	Ao	1	..	19894b	68	12033	46.2	-29 14	9.9	10.0	K2	1	..	40085b
19	6428	45.9	-58 21	9.8	9.8	Ao	2	..	37619b	69	11199	46.2	-33 4	8.9	8.8	F5	4	..	40279b
20	6413	45.9	-59 49	10.0	10.0	Ao	1	..	37619b	70	10562	46.2	-37 33	9.8	9.9	Go	3	..	14367b
21	3169	45.9	-65 58	9.7	9.7	B9	2	..	21785b	71	10398	46.2	-41 35	8.9	9.9	G5	3	..	21781b
22	2587	45.9	-68 36	8.8	8.9	A2	3	..	14146b	72	10397	46.2	-42 3	10.6	10.2	Ao	3	..	21781b
23	2463	45.9	-69 58	9.2	9.7	F8	2	..	14146b	73	10402	46.2	-47 33	10.3	9.9	B9	2	..	42502b
24	746	45.9	-81 15	8.8	9.2	F5	2	..	13442b	74	10397	46.2	-48 49	10.1	9.5	F5	2	..	42502b
25	2428	46.0	+49 0	8.8	9.6	G5	1	..	38736i	75	10104	46.2	-49 36	9.7	8.9	Ao	3	..	19894b
26	2929	46.0	+39 52	var.	var.	Nb	..	R	M	76	6759	46.2	-55 49	10.6	10.6	B9	1	..	37619b
27	3017	46.0	+13 25	8.1	9.2	K2	2	..	38754i	77	2465	46.2	-69 34	9.3	9.4	A5	2	..	14146b
28	3088	46.0	+ 3 11	8.9	9.3	F5	3	..	13412b	78	1266	46.2	-75 22	8.8	9.8	Ko	2	..	14146b
29	4290	46.0	-14 28	9.4	9.4	Ao	4	..	40580b	79	852	46.3	+68 49	9.4	10.4	Ko	1	..	37752i
30	4291	46.0	-14 34	8.1	8.7	Go	7	..	40580b	80	4180	46.3	-10 51	9.2	10.2	Ko	3	..	40580b
31	11073	46.0	-26 14	7.05	8.0	Fo	7	..	40284b	81	4293	46.3	-14 20	8.7	9.0	F2	4	..	40580b
32	12030	46.0	-29 35	6.43	7.8	Ko	9	..	40085b	82	4207	46.3	-21 22	8.08	8.5	A3	7	..	40300b
33	10568	46.0	-35 0	10.4	10.5	A2	4	..	37631b	83	12337	46.3	-24 42	9.4	9.1	Ko	2	..	40284b
34	10550	46.0	-35 8	9.6	10.2	Ao	3	..	14367b	84	11155	46.3	-25 33	10.4	9.7	F8	2	..	40284b
35	10479	46.0	-36 15	9.8	10.5	Ko	2	..	37631b	85	10565	46.3	-37 6	7.63	7.8	Go	8	..	14367b
36	10478	46.0	-36 25	8.7	9.0	A2	6	..	14367b	86	10205	46.3	-39 15	10.9	10.2	A2	2	..	21781b
37	10023	46.0	-40 41	10.9	10.4	A3	2	..	21781b	87	10865	46.3	-42 21	9.9	9.3	B9	4	..	21781b
38	10860	46.0	-42 58	8.7	9.0	F5	6	..	21781b	88	6761	46.3	-55 40	10.0	10.0	Ao	2	..	37619b
39	9594	46.0	-51 53	10.1	9.2	A2	2	..	19894b	89	6439	46.3	-58 5	8.6	9.8	K2	2	..	37619b
40	6756	46.0	-55 59	8.3	8.9	G5	4	..	37619b	90	6187	46.3	-60 27	8.7	8.7	B8	4	..	21769b
41	6431	46.0	-58 38	9.1	9.6	Ko	3	..	37619b	91	3723	46.3	-63 7	3.04	3.32	Fo	..	R	28,210
42	6414	46.0	-59 35	9.8	9.8	Ao	1	..	37619b	92	2532	46.4	+43 5	8.9	9.4	F8	3	..	38718i
43	6181	46.0	-60 42	9.5	9.5	Ao	3	..	21769b	93	2634	46.4	+32 43	9.1	9.6	F8	2	..	38719i
44	5006	46.0	-62 58	9.3	9.3	A	1	R	21769b	94	3023	46.4	+19 29	8.0	8.3	F2	3	..	37751i
45	2984	46.0	-67 8	9.7	9.7	Ao	3	..	21785b	95	3096	46.4	+ 8 10	8.9	10.1	K5	1	..	13817b
46	1181	46.0	-77 44	6.52	6.8	F5	9	..	40252b	96	4182	46.4	- 5 41	8.7	9.7	Ko	3	..	41188b
47	2531	46.1	+43 9	8.8	9.8	Ko	2	..	38718i	97	4118	46.4	- 7 44	7.66	8.73	K2	6	..	41242b
48	2827	46.1	+21 33	8.1	9.1	Ko	2	..	37751i	98	4353	46.4	-12 13	7.49	7.83	F2	8	..	40580b
49	3155	46.1	+20 40	7.8	8.8	Ko	4	..	37751i	99	4352	46.4	-13 1	9.7	10.5	G5	1	..	40580b
50	2918	46.1	+15 26	var.	var.	Md	7	0,4 R	38754i	100	4043	46.4	-22 43	9.7	9.7	Ao	3	..	40284b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

141900

15<sup>h</sup> 46<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11076	46.4	-26 51	10.4	9.2	A3	3	..	40085b	51	1507	46.6	-74 6	9.5	9.6	A5	2	..	14146b
2	12037	46.4	-29 8	9.5	10.0	K5	2	..	40085b	52	607	46.7	+77 31	8.6	9.1	F8	4	..	37809i
3	11200	46.4	-32 58	9.8	9.9	Fo	1	..	39928b	53	2697	46.7	+34 45	9.9	11.3	Mb	..	..	M
4	10566	46.4	-37 55	11.1	10.9	A2	1	..	37631b	54	2636	46.7	+32 32	8.7	8.8	A5	5	..	38719i
5	10207	46.4	-39 36	7.8	8.4	Ao	7	..	21781b	55	2744	46.7	+26 25	8.7	9.7	Ko	7	0,2	5402m
6	10866	46.4	-42 15	11.0	10.5	K5	1	..	21781b	56	2914	46.7	+10 17	8.4	8.7	Fo	7	..	13817b
7	10870	46.4	-42 58	9.7	9.3	Ao	7	..	21781b	57	3106	46.7	+9 33	9.0	9.6	Go	3	..	13817b
8	10339	46.4	-43 46	10.6	10.2	A2	3	..	21781b	58	4290	46.7	-7 0	9.7	10.3	G	1	..	41242b
9	10295	46.4	-45 59	9.7	9.6	Ao	2	..	42502b	59	4169	46.7	-16 56	8.7	9.3	Go	3	..	40300b
10	10458	46.4	-46 50	11.0	9.9	F	1	..	42502b	60	12044	46.7	-29 33	8.9	8.5	A5	6	..	40085b
11	10406	46.4	-47 11	8.7	9.3	Fo	4	..	42502b	61	10575	46.7	-34 56	10.4	10.5	Ao	4	..	37631b
12	7308	46.4	-58 4	10.6	10.6	A	1	..	37619b	62	10347	46.7	-43 59	8.5	9.0	G5	6	..	21781b
13	6191	46.4	-60 27	6.34	6.0	B8	..	1,7	56,137	63	9960	46.7	-50 12	7.74	7.8	B5	6	..	19894b
14	2987	46.4	-67 9	9.0	9.0	B9	5	..	21785b	64	9958	46.7	-50 57	9.3	8.4	Ao	4	..	19894b
15	2138	46.4	-70 41	8.5	8.5	Ao	7	..	14146b	65	6766	46.7	-54 7	9.2	9.4	Ao	3	..	19894b
16	1183	46.4	-78 5	8.9	9.5	Go	1	..	40252b	66	6445	46.7	-58 15	10.0	10.0	Ao	1	..	37619b
17	2635	46.5	+32 1	9.5	10.3	G5	2	..	38719i	67	5372	46.7	-61 51	9.8	9.8	Ao	1	..	21769b
18	4119	46.5	-8 5	8.6	8.6	Ao	6	..	41242b	68	5373	46.7	-61 55	9.5	9.5	Ao	2	..	21769b
19	4249	46.5	-9 10	8.8	9.8	Ko	3	..	41242b	69	3171	46.7	-65 52	..	9.9	Pec.	2	R	21785b
20	4294	46.5	-14 22	9.4	10.4	Ko	1	..	40580b	70	2272	46.8	+47 48	8.2	9.0	G5	4	..	38766i
21	11077	46.5	-26 48	9.7	9.5	K5	3	..	40085b	71	2922	46.8	+39 8	8.3	9.4	K2	2	..	38718i
22	10567	46.5	-38 4	10.2	10.9	G5	1	..	37631b	72	2889	46.8	+22 37	8.1	8.4	Fo	4	..	37751i
23	10031	46.5	-40 8	10.4	10.5	A	1	..	21781b	73	4020	46.8	-11 44	9.2	10.0	G5	4	..	40580b
24	10341	46.5	-43 38	10.3	10.5	Ao	2	..	21781b	74	12560	46.8	-23 10	10.6	10.8	A3	2	..	40284b
25	9599	46.5	-51 34	8.0	7.5	Ao	7	..	19894b	75	11163	46.8	-25 47	9.4	8.9	F2	4	..	40284b
26	6759	46.5	-55 2	9.02	8.6	B	4	R	21734b	76	12045	46.8	-29 57	9.16	9.3	A5	3	..	40085b
27	6997	46.5	-56 59	9.1	10.0	Ma	1	..	37619b	77	10578	46.8	-34 34	9.2	10.2	Ko	2	2,2	14367b
28	2847	46.5	-66 25	10.0	10.1	A3	2	..	21785b	78	10487	46.8	-36 34	10.0	9.9	Go	2	..	14367b
29	2139	46.5	-70 55	9.4	9.4	B9	5	..	14146b	79	10718	46.8	-38 17	10.2	10.5	Go	1	..	37631b
30	2511	46.6	+44 49	7.57	7.57	Ao	8	..	37730i	80	10215	46.8	-40 0	9.28	10.4	K5	1	..	21781b
31	2921	46.6	+38 55	8.9	10.0	K2	3	..	38718i	81	10879	46.8	-42 33	9.9	9.7	B9	3	..	21781b
32	2638	46.6	+32 57	9.1	9.4	Fo	4	..	38719i	82	10878	46.8	-42 59	11.0	9.9	Ao	2	..	21781b
33	2835	46.6	+16 27	8.51	9.69	K5	1	..	38754i	83	6775	46.8	-55 59	8.9	8.5	A2	4	..	37619b
34	2915	46.6	+10 51	8.6	9.0	F5	4	..	13817b	84	7005	46.8	-56 33	9.2	10.3	K2	1	..	37619b
35	3110	46.6	+6 12	9.1	9.5	F5	2	..	13817b	85	3305	46.8	-64 23	9.8	9.9	A2	1	..	21769b
36	4270	46.6	-13 26	10.1	11.1	Ko	1	..	40580b	86	2848	46.8	-66 34	9.3	9.6	Fo	4	..	21785b
37	4442	46.6	-18 8	7.36	7.92	Go	8	..	40300b	87	813	46.9	+69 47	7.44	7.50	A2	7	..	37752i
38	12339	46.6	-24 43	8.1	9.2	Ma	3	..	40284b	88	1431	46.9	+62 40	8.2	8.3	A2p	4	R	37746i
39	11080	46.6	-26 47	8.5	8.5	Ao	6	..	40284b	89	1833	46.9	+56 33	7.34	8.41	K2	6	..	38767i
40	12042	46.6	-29 33	9.2	9.3	Ko	2	..	40085b	90	2706	46.9	+38 9	8.1	8.9	G5	4	..	38718i
41	10561	46.6	-35 6	9.5	10.9	K2	3	..	37631b	91	2548	46.9	+27 16	9.5	10.3	G5	2	..	5402m
42	10210	46.6	-39 16	9.2	9.6	Go	5	..	21781b	92	2829	46.9	+21 17	4.88	6.06	K5	10	R	37751i
43	10403	46.6	-41 58	7.6	8.4	G5	8	..	21781b	93	2951	46.9	+14 13	7.67	8.74	K2	4	..	38754i
44	10403	46.6	-48 19	8.4	8.9	B8	4	..	42502b	94	4122	46.9	-7 11	9.7	10.3	Go	2	..	41242b
45	6753	46.6	-53 17	7.1	7.4	F2	7	..	19894b	95	4252	46.9	-10 5	9.7	10.8	K2	2	..	40580b
46	6443	46.6	-58 39	9.0	8.9	Go	6	..	37619b	96	4183	46.9	-10 50	10.3	11.5	K5	1	..	40580b
47	3728	46.6	-63 47	8.8	8.8	Ao	5	..	21769b	97	4170	46.9	-16 9	10.1	10.6	F8	2	..	37760b
48	3303	46.6	-64 35	9.5	9.6	A2	3	..	21785b	98	10580	46.9	-34 53	9.5	9.6	A2	5	1,4	14367b
49	2988	46.6	-67 57	8.0	8.0	Ao	6	..	14146b	99	10881	46.9	-42 53	9.7	9.3	A2	4	..	21781b
50	2140	46.6	-70 31	8.5	9.5	Ko	3	..	14146b	100	10350	46.9	-44 2	9.5	10.2	Ao	3	..	21781b

## THE HENRY DRAPER CATALOGUE.

142000

15<sup>h</sup> 46<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6780	46.9	-55 18	9.9	10.0	A5	2	..	37619b	51	1888	47.2	-72 52	7.7	7.7	B8	10	..	14146b
2	3174	46.9	-65 15	9.05	9.0	B9	5	..	21785b	52	2790	47.3	+31 16	9.5	10.3	G5	1	..	38719i
3	2849	46.9	-66 8	9.0	10.1	K2	3	..	21785b	53	2981	47.3	+25 37	7.9	8.9	Ko	5	..	38470i
4	1935	46.9	-71 16	9.5	9.5	Ao	3	..	14146b	54	2921	47.3	+15 9	8.77	9.95	K5	1	..	38754i
5	630	47.0	+74 8	7.9	8.9	Ko	3	..	37752i	55	3138	47.3	+1 2	8.86	8.86	Ao	4	..	13412b
6	846	47.0	+70 41	7.70	8.20	F8	5	..	37752i	56	4297	47.3	-14 41	10.3	10.9	Go	1	..	40580b
7	1539	47.0	+61 44	8.9	10.3	Ma	2	..	37746i	57	10623	47.3	-27 25	8.7	8.9	K2	3	..	40085b
8	1611	47.0	+57 27	9.4	10.2	G5	1	..	38767i	58	11645	47.3	-28 41	9.1	8.6	F8	3	..	40085b
9	3099	47.0	+8 10	9.0	10.0	Ko	3	..	13817b	59	10568	47.3	-35 19	9.6	10.5	Go	3	..	37631b
10	3045	47.0	+7 33	9.1	9.7	Go	1	..	13817b	60	10497	47.3	-36 40	8.9	10.2	K5	2	..	14367b
11	3108	47.0	-1 58	8.5	9.1	Go	4	..	41188b	61	10417	47.3	-48 1	9.7	10.5	Ko	1	..	42502b
12	4291	47.0	-6 19	9.7	10.5	G5	1	..	41242b	62	10413	47.3	-48 48	9.3	9.4	Ao	3	..	42502b
13	4184	47.0	-10 36	9.9	10.9	Ko	1	..	40580b	63	R	47.3	-50 47	9.3	9.3	Ao	2	..	19894b
14	4186	47.0	-18 52	9.9	10.0	A3	3	..	40300b	64	6766	47.3	-53 12	7.3	7.8	B9	8	..	19894b
15	4248	47.0	-20 0	9.48	10.5	A5	2	..	37760b	65	2993	47.3	-67 13	9.3	9.4	A3	4	..	21785b
16	12626	47.0	-30 29	7.15	7.7	A3	9	..	40085b	66	1540	47.4	+61 48	9.9	10.5	G	1	..	37746i
17	10574	47.0	-37 43	8.9	9.3	F2	5	..	14367b	67	2931	47.4	+40 12	9.32	10.39	K2	1	..	38718i
18	10719	47.0	-39 4	8.6	9.6	G5	5	..	21781b	68	2724	47.4	+29 40	9.1	9.6	F8	2	..	38719i
19	9966	47.0	-50 57	7.5	7.3	B9	7	..	19894b	69	2725	47.4	+29 30	9.5	10.3	G5	2	..	38719i
20	5380	47.0	-61 20	8.9	10.1	K5	1	..	37619b	70	3026	47.4	-0 42	7.9	7.9	Ao	6	..	13412b
21	2588	47.0	-68 55	9.2	9.2	Ao	3	..	14146b	71	3025	47.4	-1 2	8.7	9.8	K2	2	..	41188b
22	593	47.0	-83 57	7.70	8.7	Ko	4	R	22577b	72	3109	47.4	-1 36	7.9	8.7	G5	5	0.4	41188b
23	2549	47.1	+26 56	10.8	11.4	Go	2	..	5402m	73	4357	47.4	-12 30	9.9	10.4	F8	3	..	40580b
24	3024	47.1	+19 36	8.5	9.6	K2	1	..	37751i	74	4172	47.4	-16 16	10.3	10.8	F8	2	..	37760b
25	3111	47.1	+6 2	9.5	9.6	A2	2	..	13817b	75	4187	47.4	-18 51	9.4	9.5	A3	2	..	40300b
26	3836	47.1	-4 1	8.1	9.2	K2	1	..	41188b	76	12348	47.4	-24 39	10.9	10.5	Go	2	..	40284b
27	12343	47.1	-24 28	10.9	9.7	Ko	1	..	40284b	77	11215	47.4	-32 21	10.0	9.9	Go	2	..	40279b
28	10491	47.1	-36 49	10.6	10.8	F8	2	..	37631b	78	10040	47.4	-40 45	10.4	10.4	G5	1	..	21781b
29	6778	47.1	-54 19	9.7	9.7	Ao	2	..	21734b	79	10469	47.4	-46 23	9.9	10.2	Ao	2	..	42502b
30	7014	47.1	-56 21	10.2	10.2	Ao	1	..	37619b	80	10122	47.4	-50 3	6.81	7.0	A2	9	R	19894b
31	6449	47.1	-58 56	9.3	9.3	B9	4	..	37619b	81	9067	47.4	-52 51	8.1	8.2	F8	4	..	19894b
32	2590	47.1	-68 22	8.9	9.4	F8	2	..	14146b	82	7019	47.4	-56 42	8.4	9.2	A	1	..	37619b
33	1070	47.1	-78 25	7.4	8.2	G5	6	..	40252b	83	6453	47.4	-58 45	9.0	8.9	F2	5	..	37619b
34	2923	47.2	+39 32	9.2	9.8	Go	1	..	38718i	84	6203	47.4	-60 58	9.0	10.0	Ko	1	..	21769b
35	2708	47.2	+37 53	7.72	8.72	Ko	6	..	38718i	85	5384	47.4	-61 21	9.3	9.8	F8	2	..	37619b
36	2637	47.2	+32 2	9.1	10.1	Ko	2	..	38719i	86	2466	47.4	-70 2	9.4	9.5	A3	1	..	14146b
37	2745	47.2	+26 42	10.3	10.8	F8	3	..	5402m	87	1889	47.4	-72 57	9.2	9.8	G	2	..	14146b
38	3097	47.2	+4 56	9.16	10.34	K5	1	..	13817b	88	1091	47.5	+64 24	9.4	10.4	Ko	2	..	37746i
39	3073	47.2	+4 17	8.9	9.3	F5	3	0.2	13412b	89	1637	47.5	+60 50	7.81	8.23	F5	5	..	37746i
40	12346	47.2	-24 12	11.4	9.5	F8	2	..	40284b	90	2034	47.5	+51 11	8.2	8.2	Ao	3	..	38736i
41	12369	47.2	-31 20	8.5	8.8	A2	5	..	40279b	91	2652	47.5	+35 59	4.77	5.77	Ko	..	R	56.92
42	10887	47.2	-42 29	11.0	10.2	Ao	2	..	21781b	92	2641	47.5	+33 28	8.7	9.1	F5	3	..	38719i
43	10357	47.2	-43 33	9.5	9.6	A2	4	..	21781b	93	2923	47.5	+15 32	7.27	7.83	Go	6	..	37751i
44	10354	47.2	-43 34	11.0	10.8	A	1	..	21781b	94	3108	47.5	+9 0	8.9	9.4	F8	4	..	13817b
45	10488	47.2	-44 31	10.3	9.6	F5	3	..	21781b	95	4025	47.5	-11 32	9.1	9.2	A3	3	..	40580b
46	10487	47.2	-44 43	10.3	9.6	A3	3	..	21781b	96	4249	47.5	-19 52	5.06	4.89	B3	..	0.8R	56.93
47	10415	47.2	-47 26	10.6	10.4	B9	1	..	42502b	97	4214	47.5	-21 40	8.3	8.7	A3	6	..	40300b
48	9967	47.2	-50 40	9.3	8.5	Ao	3	..	19894b	98	10584	47.5	-34 58	9.33	9.9	A3	4	1.2	14367b
49	6428	47.2	-59 53	6.04	6.0	A3	..	1.9R	56.137	99	10727	47.5	-38 48	10.2	10.2	F2	2	..	37631b
50	5026	47.2	-62 52	9.7	9.8	A2	2	..	21769b	100	10412	47.5	-41 43	10.4	10.8	Mb	..	..	M

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

142100

15<sup>h</sup> 47<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	7021	47.5	-56 46	8.1	8.5	F8	7	..	37619b	51	10316	47.8	-45 10	8.98	9.3	Ao	5	..	42502b
2	6432	47.5	-59 18	8.8	9.3	Ko	4	..	37619b	52	6788	47.8	-54 29	9.6	9.4	B	1	..	21734b
3	3175	47.5	-65 14	9.6	9.6	B9	3	..	21785b	53	6803	47.8	-55 6	10.6	10.6	Ao	1	..	21734b
4	1675	47.5	-73 8	8.8	9.8	Ko	2	..	14146b	54	6466	47.8	-58 48	9.0	10.4	Ma	2	..	37619b
5	527	47.6	+78 6	4.34	4.40	A2	..	R	56,93	55	3736	47.8	-63 57	8.7	9.9	K5	2	..	21769b
6	1783	47.6	+55 4	8.2	9.2	Ko	2	..	38736i	56	3737	47.8	-64 3	9.5	9.6	A3	2	..	21769b
7	2430	47.6	+49 33	8.7	9.5	G5	1	..	38736i	57	2995	47.8	-67 33	8.9	9.9	Ko	2	..	21785b
8	2645	47.6	+42 52	7.22	7.64	F5	6	0,7	38718i	58	2591	47.8	-68 31	8.6	8.6	B9	5	..	14146b
9	3159	47.6	+20 33	8.9	9.5	G	2	..	37751i	59	880	47.8	-79 29	9.2	9.5	Fo	1	..	40252b
10	4254	47.6	-9 30	9.1	9.2	A2	4	..	41242b	60	2792	47.9	+31 16	9.2	10.0	G5	2	..	38719i
11	4026	47.6	-12 6	9.4	9.5	A5	3	..	40580b	61	2727	47.9	+28 57	8.5	9.7	K5	1	..	38719i
12	4445	47.6	-17 40	7.9	8.2	F2	6	..	40300b	62	3028	47.9	-0 49	9.1	9.7	Go	2	..	41188b
13	4189	47.6	-19 6	9.2	9.9	F8	3	..	40300b	63	4100	47.9	-8 18	9.4	9.9	F8	2	..	41242b
14	12352	47.6	-25 2	4.66	4.49	B3	..	0, R	28,210	64	4219	47.9	-21 26	9.7	10.0	Go	2	..	40284b
15	10042	47.6	-40 50	8.2	8.1	Fo	7	..	21781b	65	12354	47.9	-24 15	5.44	5.8	B5	..	3,6	56,137
16	10413	47.6	-41 26	10.4	10.2	B9	2	..	21781b	66	10573	47.9	-35 19	8.2	10.4	Ko	2	..	14367b
17	10126	47.6	-49 7	7.7	7.9	F5	7	..	19894b	67	10582	47.9	-38 1	10.2	9.9	F5	3	..	37631b
18	9070	47.6	-52 41	8.6	8.7	G5	3	..	19894b	68	10731	47.9	-38 28	9.2	9.5	F8	4	..	14367b
19	6787	47.6	-54 28	9.6	9.7	A2	1	..	21734b	69	10047	47.9	-40 54	8.9	9.0	Fo	5	..	21781b
20	7336	47.6	-57 22	10.0	10.0	B9	3	..	37619b	70	9075	47.9	-52 31	9.3	9.3	B9	2	..	19894b
21	6434	47.6	-60 5	9.5	9.5	B8	3	1,3	37619b	71	7033	47.9	-56 39	8.8	9.5	K2	2	..	37619b
22	2850	47.6	-66 43	9.6	9.6	B9	3	..	21785b	72	2996	47.9	-68 3	7.7	8.8	K2	4	..	14146b
23	609	47.7	+77 26	8.0	8.8	G5	3	..	37809i	73	2469	47.9	-69 30	9.6	9.9	Fo	2	..	14146b
24	1228	47.7	+63 28	8.0	8.3	Fo	5	..	37746i	74	2932	48.0	+40 3	8.14	9.32	K5	3	..	38718i
25	1910	47.7	+52 4	8.2	9.2	Ko	2	5,1	38736i	75	2793	48.0	+31 1	9.2	10.2	Ko	1	..	38719i
26	2641	47.7	+40 56	8.8	9.8	Ko	1	..	38718i	76	2718	48.0	+30 11	7.36	8.54	K5	6	..	38719i
27	3020	47.7	+13 42	8.7	9.5	G5	2	..	38754i	77	2728	48.0	+29 22	9.1	9.9	G5	1	..	38719i
28	3099	47.7	+5 46	9.0	10.0	Ko	2	..	13817b	78	2484	48.0	+27 54	9.16	10.16	Ko	2	..	38719i
29	4187	47.7	-10 59	10.1	11.1	Ko	2	..	40580b	79	2891	48.0	+22 2	8.1	8.9	G5	3	..	37751i
30	4276	47.7	-13 18	9.4	9.5	A3	4	..	40580b	80	3029	48.0	-0 58	8.9	9.0	A3	3	..	41188b
31	4298	47.7	-14 24	7.9	8.4	F8	8	..	40580b	81	3112	48.0	-1 38	9.1	9.6	F8	1	..	41188b
32	10043	47.7	-40 54	7.6	8.5	G5	4	..	21781b	82	4190	48.0	-18 14	9.9	10.2	Fo	2	..	37760b
33	9072	47.7	-52 21	8.3	9.0	K2	2	..	19894b	83	4253	48.0	-20 1	8.58	9.6	K2	3	..	40300b
34	6798	47.7	-55 28	8.6	9.2	Go	4	..	37619b	84	12569	48.0	-23 41	5.36	5.19	B3	..	2,6	56,137
35	6797	47.7	-55 52	9.5	10.6	K2	1	..	37619b	85	12355	48.0	-24 57	9.40	9.8	Ko	1	..	40284b
36	7029	47.7	-56 21	9.0	9.7	G5	2	..	37619b	86	11091	48.0	-26 58	11.1	9.2	Ao	3	..	40085b
37	6464	47.7	-58 24	8.3	8.4	Go	7	..	37619b	87	10796	48.0	-33 46	9.0	9.0	F8	4	..	40279b
38	6435	47.7	-59 46	8.2	8.0	B9	7	..	21769b	88	10503	48.0	-36 53	10.6	10.5	A2	3	..	37631b
39	6208	47.7	-60 11	5.96	5.9	A2	..	2,8	56,137	89	10423	48.0	-48 15	11.6	9.9	A2	2	..	42502b
40	5388	47.7	-61 54	9.0	9.5	F8	2	..	21769b	90	10134	48.0	-49 41	7.2	7.9	K2	5	..	19894b
41	1936	47.7	-71 55	9.6	9.7	A2	2	..	14146b	91	1509	48.0	-74 19	8.5	9.6	K2	6	..	14146b
42	1834	47.8	+56 45	9.6	10.4	G5	2	..	38767i	92	1229	48.1	+62 59	9.7	10.7	Ko	2	..	37746i
43	2334	47.8	+48 47	var.	var.	Mc	3	5,2 R	38766i	93	1543	48.1	+61 39	8.2	9.2	Ko	3	..	37746i
44	2791	47.8	+31 7	8.8	9.9	K2	1	..	38719i	94	1638	48.1	+60 30	8.8	9.8	Ko	2	..	38764i
45	4128	47.8	-7 21	8.3	8.8	F8	5	..	41242b	95	3100	48.1	+5 12	8.6	9.8	K5	3	..	13817b
46	4277	47.8	-13 14	9.4	9.5	A2	4	..	40580b	96	..	48.1	+1 8	..	..	Go	1	..	13412b
47	10629	47.8	-27 54	10.4	9.2	A2	3	..	40085b	97	4064	48.1	-2 43	7.36	7.78	F5	7	..	41188b
48	12377	47.8	-31 46	8.7	8.8	Go	5	..	40279b	98	4174	48.1	-16 27	4.34	5.34	Ko	..	R	56,93
49	12378	47.8	-32 4	9.5	9.9	G5	2	..	40279b	99	10505	48.1	-36 30	10.4	11.5	K2	1	..	37631b
50	10580	47.8	-37 22	10.6	10.5	A5	3	..	37631b	100	10733	48.1	-38 33	10.4	9.5	B8	4	..	14367b

## THE HENRY DRAPER CATALOGUE.

142200

15<sup>h</sup> 48<sup>m</sup>.1

H. D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H. D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10225	48.1	-39 51	11.1	10.4	Ao	2	..	21781b	51	11668	48.4	-28 51	10.2	9.1	A3	2	..	40085b
2	10051	48.1	-40 42	10.2	9.9	A2	4	..	21781b	52	10735	48.4	-38 39	8.1	10.1	K5	3	..	14367b
3	10418	48.1	-42 1	9.5	10.2	Ko	2	..	21781b	53	10052	48.4	-40 19	8.2	8.3	Ko	7	..	21781b
4	10431	48.1	-47 15	9.5	9.7	B9	2	..	42502b	54	10901	48.4	-42 19	6.84	7.2	F2	5	..	8991b
5	10432	48.1	-47 47	10.1	10.8	K2	1	..	42502b	55	10375	48.4	-43 6	7.12	7.1	A3	10	..	21781b
6	2997	48.1	-67 25	9.6	9.7	A2	3	..	21785b	56	10501	48.4	-44 14	7.16	7.6	B8	4	..	43284b
7	2470	48.1	-69 25	9.3	9.4	A5	3	..	14146b	57	9990	48.4	-50 15	9.3	8.1	B9	4	..	19894b
8	1911	48.2	+52 33	8.7	9.7	Ko	3	2,1	38766i	58	9087	48.4	-52 40	8.7	8.2	Ao	5	..	19894b
9	2729	48.2	+28 54	8.1	9.2	K2	6	..	38719i	59	6806	48.4	-54 13	9.4	9.4	B9	3	..	19894b
10	2486	48.2	+28 24	9.46	10.02	Go	5	..	5402m	60	7042	48.4	-56 41	9.9	10.0	A2	1	..	37619b
11	2877	48.2	+11 16	9.8	9.8	A	1	..	13817b	61	7043	48.4	-56 54	10.0	10.0	B9	2	..	37619b
12	3016	48.2	+2 26	9.5	9.5	A	1	..	13412b	62	6451	48.4	-59 14	9.2	9.2	Fo	4	..	37619b
13	4130	48.2	-7 10	8.7	9.5	G5	4	..	41242b	63	6450	48.4	-59 25	8.9	9.5	Go	3	..	37619b
14	4191	48.2	-10 15	9.36	9.64	Fo	4	..	40580b	64	2036	48.5	+51 8	8.4	8.4	Ao	3	..	38736i
15	4191	48.2	-18 39	7.75	9.10	Ma	5	..	40300b	65	2640	48.5	+32 25	8.7	9.7	Ko	4	..	38719i
16	10637	48.2	-27 48	9.4	9.5	K5	1	..	40085b	66	2550	48.5	+27 0	10.1	11.1	Ko	2	..	5402m
17	12643	48.2	-30 8	7.98	8.5	F5	6	..	40085b	67	3024	48.5	+13 31	6.16	6.72	Go	9	..	38754i
18	9986	48.2	-50 50	7.9	7.8	B8	5	..	19894b	68	2909	48.5	+12 40	7.5	8.6	K2	4	..	38754i
19	9620	48.2	-51 29	8.5	9.0	K2	2	..	19894b	69	3995	48.5	-4 11	8.1	8.7	Go	4	..	41188b
20	9084	48.2	-53 4	8.4	8.5	A2	4	..	19894b	70	4192	48.5	-10 21	9.4	10.0	Go	3	..	40580b
21	5041	48.2	-62 41	8.2	9.2	Ko	4	..	21769b	71	4193	48.5	-11 3	9.2	10.2	Ko	3	..	40580b
22	2851	48.2	-66 51	8.5	8.5	B8	7	..	21785b	72	4028	48.5	-11 49	9.4	10.5	K2	2	..	40580b
23	1890	48.2	-72 7	8.6	9.4	G5	3	..	14146b	73	4209	48.5	-15 22	9.1	10.1	Ko	3	..	40580b
24	2535	48.3	+43 3	8.8	9.6	G5	3	0,1	38718i	74	11097	48.5	-26 48	9.1	8.6	F8	5	..	40085b
25	2746	48.3	+26 51	10.1	10.7	Go	2	..	5402m	75	10581	48.5	-36 0	9.14	9.3	F5	6	..	14367b
26	3082	48.3	+17 52	8.9	9.9	K	1	..	37751i	76	10510	48.5	-36 30	9.3	9.9	A5	4	..	14367b
27	2837	48.3	+16 14	8.24	8.74	F8	3	..	37751i	77	10903	48.5	-42 14	7.6	8.6	Ko	7	..	21781b
28	3101	48.3	+8 40	8.9	9.9	Ko	2	..	13817b	78	10904	48.5	-43 3	8.6	8.6	Fo	5	..	21781b
29	3074	48.3	+4 34	8.6	9.4	G5	8	..	13817b	79	10376	48.5	-43 41	7.9	7.8	B8	9	..	21781b
30	3113	48.3	-1 38	9.1	10.3	K5	1	..	41188b	80	10145	48.5	-49 24	10.1	9.1	A3	1	..	42502b
31	4360	48.3	-12 53	9.9	9.9	Ao	3	..	40580b	81	6222	48.5	-60 8	9.9	10.0	A5	2	..	21769b
32	10640	48.3	-27 17	8.9	8.8	A3	4	..	40085b	82	1816	48.6	+53 13	6.53	6.53	Ao	8	2,6 R	38736i
33	12384	48.3	-31 50	10.9	11.1	A2	2	..	39928b	83	2225	48.6	+50 7	9.1	9.9	G5	2	..	38766i
34	10583	48.3	-37 14	8.1	9.0	Go	6	..	14367b	84	2537	48.6	+42 56	8.2	9.0	G5	3	..	37730i
35	10427	48.3	-48 9	10.1	9.9	Ao	1	..	42502b	85	3114	48.6	+5 55	9.1	9.7	Go	3	..	13817b
36	6791	48.3	-53 20	8.2	8.0	A2	6	..	19894b	86	3423	48.6	+0 36	9.1	10.1	Ko	3	..	13412b
37	6802	48.3	-54 40	8.5	9.1	B2	4	..	21734b	87	4223	48.6	-21 16	9.4	9.6	Fo	3	..	37760b
38	6812	48.3	-55 10	9.9	10.0	A2	2	..	21734b	88	11183	48.6	-25 43	9.7	9.4	K2	1	..	40284b
49	6444	48.3	-59 21	8.9	10.1	K5	1	..	37619b	89	11233	48.6	-32 39	10.2	10.8	K5	1	..	39928b
40	6218	48.3	-60 43	9.8	9.8	Ao	3	..	21769b	90	10231	48.6	-39 6	9.3	9.6	F2	4	..	21781b
41	3178	48.3	-65 10	8.73	9.7	K2	3	..	21785b	91	10230	48.6	-39 58	9.58	9.5	B8	4	..	21781b
42	2852	48.3	-66 34	9.7	9.7	Ao	3	..	21785b	92	10425	48.6	-41 38	8.7	9.2	F5	5	R	21781b
43	2730	48.4	+29 13	7.80	8.87	K2	5	..	38719i	93	5048	48.6	-62 11	9.6	9.6	Ao	2	..	21769b
44	2926	48.4	+17 43	6.44	7.44	Ko	7	..	37751i	94	1892	48.6	-72 54	8.4	9.5	K2	3	..	14146b
45	2925	48.4	+15 44	7.62	8.62	Ko	4	..	37751i	95	445	48.6	-85 46	9.6	10.2	G	1	..	13458b
46	3075	48.4	+4 24	8.9	10.1	K5	1	..	13817b	96	489	48.7	+80 26	7.83	8.11	Fo	3	..	37240i
47	4131	48.4	-7 59	8.3	9.5	K5	2	..	41242b	97	2513	48.7	+44 2	9.1	9.9	G5	2	..	38718i
48	4300	48.4	-14 25	9.4	9.8	F5	2	..	40580b	98	2917	48.7	+10 39	8.4	8.7	F2	3	..	38754i
49	4045	48.4	-22 53	10.6	10.5	F8	1	..	40284b	99	4186	48.7	-5 26	9.4	9.4	A	1	..	41242b
50	11096	48.4	-27 3	6.01	6.2	B5	..	..	56,137	100									

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

142300

15<sup>h</sup> 48<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	12365	48.7	-24 57	5.93	6.2	B8	..	1,5	56,137	51	3742	49.0	-63 42	9.3	9.3	Ao	6	..	21769b
2	10741	48.7	-38 59	9.6	9.8	Ao	4	..	21781b	52	1893	49.0	-72 36	9.0	10.2	K5	1	..	14146b
3	10232	48.7	-39 17	8.2	8.3	F5	7	..	21781b	53	816	49.1	+69 18	9.1	10.1	Ko	2	..	37752i
4	10503	48.7	-44 15	7.03	7.6	B8	5	..	43284b	54	1433	49.1	+62 25	9.9	10.5	Go	2	..	37746i
5	6454	48.7	-59 8	8.8	8.9	G5	6	..	37619b	55	2487	49.1	+28 6	8.42	9.49	K2	3	..	38719i
6	6453	48.7	-59 45	9.6	9.6	B9	3	..	21769b	56	3031	49.1	+19 2	8.3	8.6	Fo	3	..	37751i
7	5049	48.7	-62 50	10.0	10.1	A3	1	..	21769b	57	2840	49.1	+16 23	6.14	6.48	F2	8	2,10	38754i
8	1270	48.7	-75 20	7.51	7.8	Ao	8	..	11726b	58	3113	49.1	+9 44	9.8	10.1	Fo	3	..	13817b
9	1192	48.7	-77 12	7.6	8.6	Ko	3	..	40252b	59	4447	49.1	-18 6	11.0	11.5	F8	1	..	37760b
10	2927	48.8	+39 17	9.5	10.3	G5	1	..	38718i	60	4194	49.1	-18 13	9.7	10.5	G5	1	..	37760b
11	2928	48.8	+17 34	9.1	10.5	Ma	1	..	37751i	61	12575	49.1	-23 29	9.1	9.3	Go	3	..	40284b
12	4132	48.8	-7 41	9.2	10.0	G5	1	..	41242b	62	10588	49.1	-37 55	10.9	10.8	A3	1	..	37631b
13	4195	48.8	-10 47	7.10	8.10	Ko	9	..	40580b	63	10065	49.1	-40 22	10.4	9.3	Ao	4	..	21781b
14	4282	48.8	-13 58	10.6	11.2	Go	1	..	40580b	64	6823	49.1	-55 43	8.3	8.5	B9	6	..	37619b
15	4046	48.8	-22 29	6.73	7.0	B8	9	1,9	40284b	65	6500	49.1	-58 21	8.4	9.5	F8	4	..	37619b
16	10805	48.8	-33 24	9.8	10.9	K5	1	..	39928b	66	3743	49.1	-63 18	9.1	9.9	G5	3	..	21769b
17	10804	48.8	-33 57	8.9	9.0	Ao	4	..	40279b	67	3315	49.1	-64 48	9.9	9.9	Ao	1	..	21785b
18	10585	48.8	-35 20	9.6	9.9	Ao	3	..	14367b	68	2472	49.1	-69 30	8.8	9.2	F5	4	..	14146b
19	10480	48.8	-46 19	9.3	9.6	F8	2	..	42502b	69	2144	49.1	-70 28	9.2	9.2	Ao	4	..	14146b
20	10150	48.8	-49 7	9.0	8.5	B8	3	..	42502b	70	1679	49.1	-73 19	8.2	9.2	Ko	5	..	14146b
21	9627	48.8	-51 31	10.6	9.9	Ao	1	..	19894b	71	817	49.2	+69 24	9.1	10.1	Ko	1	..	37752i
22	5408	48.8	-61 19	9.8	9.8	B9	2	..	37619b	72	1231	49.2	+63 15	9.6	10.4	G5	2	..	37746i
23	3179	48.8	-65 28	8.9	9.0	A3	5	..	21785b	73	2648	49.2	+42 44	4.61	5.17	Go	..	R	56,93
24	2593	48.8	-68 19	8.1	8.2	A3	6	..	14146b	74	2649	49.2	+42 31	8.0	8.8	G5	2	..	38718i
25	2142	48.8	-70 49	8.4	8.5	A2	7	..	14146b	75	2747	49.2	+26 36	9.1	9.9	G5	2	..	5402m
26	796	48.8	-80 18	8.3	9.5	K5	1	..	40252b	76	3084	49.2	+17 55	7.9	8.0	A2	4	..	37751i
27	2731	48.9	+29 0	10.3	11.3	Ko	3	..	5402m	77	3997	49.2	-4 24	8.5	9.1	Go	3	..	41188b
28	2838	48.9	+21 10	9.1	9.7	G	2	..	37751i	78	4195	49.2	-19 6	5.90	6.1	B5	6	..	43260b
29	3076	48.9	+4 44	8.50	9.68	K5	3	..	13817b	79	4260	49.2	-19 57	9.2	11.1	Ko	1	..	40300b
30	4187	48.9	-5 22	9.1	9.7	Go	2	..	41242b	80	4356	49.2	-20 30	9.2	8.9	F5	4	..	40300b
31	4104	48.9	-8 17	8.5	9.1	Go	4	..	41242b	81	4224	49.2	-21 25	10.6	10.7	A3	1	..	37760b
32	4355	48.9	-20 31	8.5	9.6	Mb	3	..	40300b	82	11186	49.2	-25 30	8.1	8.8	Ko	6	..	40284b
33	10646	48.9	-27 37	8.5	8.8	Go	4	..	40085b	83	10810	49.2	-33 7	9.3	10.7	Ko	2	..	40279b
34	10806	48.9	-33 22	10.6	10.7	Go	1	..	39928b	84	10069	49.2	-40 30	9.3	8.3	Ko	8	R	21781b
35	10601	48.9	-34 22	9.6	10.5	Go	4	..	37631b	85	10512	49.2	-44 26	9.9	9.4	Ao	5	..	21781b
36	10587	48.9	-37 46	10.6	10.9	Go	1	..	37631b	86	10154	49.2	-49 21	8.7	8.4	Ao	6	..	19894b
37	10380	48.9	-43 15	9.9	8.7	Fo	6	..	21781b	87	9998	49.2	-50 52	9.7	9.4	G	2	R	19894b
38	7061	48.9	-56 13	9.2	9.7	B9	3	..	37619b	88	9102	49.2	-52 15	8.5	8.2	A5	4	..	19894b
39	7063	48.9	-56 44	10.0	10.0	Ao	2	..	37619b	89	6502	49.2	-59 3	9.2	9.2	B8	4	..	37619b
40	2471	48.9	-69 31	8.7	9.7	Ko	2	..	14146b	90	3744	49.2	-63 6	9.6	9.7	A5	3	..	21769b
41	2143	48.9	-70 50	8.0	8.8	G5	6	..	14146b	91	2473	49.2	-69 57	9.5	10.0	F8	1	..	14146b
42	1081	49.0	+65 6	7.15	7.15	Ao	8	..	37746i	92	1680	49.2	-73 47	8.8	10.0	K5	1	..	14146b
43	1912	49.0	+51 54	8.9	9.2	F2	3	..	38736i	93	1615	49.3	+57 27	7.58	8.76	K5	5	..	38767i
44	2934	49.0	+40 15	9.14	9.56	F5	2	..	38718i	94	2650	49.3	+42 51	8.8	8.8	A	3	..	37730i
45	2551	49.0	+27 30	8.8	9.8	Ko	4	..	5402m	95	2795	49.3	+31 33	7.9	9.1	K5	4	..	38719i
46	3105	49.0	+5 39	9.0	9.0	Ao	3	..	13817b	96	2733	49.3	+28 54	8.5	9.7	K5	2	..	38719i
47	4284	49.0	-13 23	8.6	8.9	Fo	6	..	40580b	97	2552	49.3	+27 12	9.6	10.2	Go	2	..	5402m
48	6824	49.0	-53 30	7.5	8.0	Ko	5	..	19894b	98	3107	49.3	+5 46	9.5	10.5	Ko	1	..	13817b
49	7363	49.0	-57 18	8.9	8.8	B5	5	..	37619b	99	3096	49.3	+3 35	7.7	8.9	K5	3	..	13817b
50	6226	49.0	-60 26	9.0	9.8	G5	2	..	21769b	100	4134	49.3	-7 11	9.9	10.2	F2	2	..	41242b

## THE HENRY DRAPER CATALOGUE.

142400

15<sup>h</sup> 49<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4211	49.3	-16 4	9.7	10.5	G5	2	0,2	40300b	51	6837	49.5	-54 15	9.0	8.9	B5	3	..	19894b
2	4176	49.3	-16 40	10.1	10.9	G5	1	..	37760b	52	7084	49.5	-56 45	9.2	9.2	B8	3	..	37619b
3	4225	49.3	-21 58	9.4	9.6	A0	3	..	40300b	53	2642	49.6	+41 36	7.90	8.90	K0	3	5,4	38718i
4	12576	49.3	-24 3	10.6	9.0	A0	4	..	40284b	54	2553	49.6	+26 57	9.5	10.5	K0	5	..	5402m
5	11189	49.3	-25 58	10.4	9.1	F8	3	..	40284b	55	2929	49.6	+17 18	7.7	8.0	F2	4	..	37751i
6	11690	49.3	-28 54	8.9	8.9	K2	4	..	40085b	56	11106	49.6	-26 27	7.28	8.2	F8	6	..	40284b
7	12663	49.3	-30 48	6.34	7.7	K0	9	..	40085b	57	10651	49.6	-28 4	8.2	8.0	F0	6	..	40085b
8	10516	49.3	-36 20	9.0	9.6	F8	4	..	14367b	58	10591	49.6	-35 8	9.18	9.9	F8	3	..	40279b
9	10594	49.3	-38 3	9.6	10.5	G0	2	..	37631b	59	10592	49.6	-35 31	10.2	10.2	A0	3	..	37631b
10	10387	49.3	-43 25	9.2	9.7	K0	4	..	21781b	60	10753	49.6	-38 59	9.8	10.1	A0	3	..	14367b
11	10386	49.3	-43 56	9.9	9.6	F8	3	..	21781b	61	10073	49.6	-40 15	9.18	9.6	K0	3	..	21781b
12	10513	49.3	-44 33	9.9	10.5	K0	2	5,1	37577b	62	10920	49.6	-42 52	9.1	10.7	K5	2	..	21781b
13	6836	49.3	-54 4	9.1	9.1	A2	3	..	19894b	63	10392	49.6	-43 15	11.0	10.4	A2	2	..	21781b
14	6830	49.3	-54 56	9.9	10.0	A2	3	..	21734b	64	10515	49.6	-44 11	9.1	9.3	K0	5	..	21781b
15	6464	49.3	-59 55	7.24	8.6	G0	8	..	21769b	65	10516	49.6	-44 36	11.0	9.9	A2	3	1,2	21781b
16	3745	49.3	-63 12	9.7	9.7	A0	3	..	21769b	66	10166	49.6	-49 49	9.1	9.4	A3	2	..	19894b
17	1913	49.4	+52 52	8.9	9.2	F2	2	..	38736i	67	10007	49.6	-50 15	9.07	8.7	A0	3	..	19894b
18	2734	49.4	+29 46	8.31	9.31	K0	5	..	38719i	68	6845	49.6	-54 3	8.0	8.2	B2	5	..	19894b
19	2748	49.4	+26 4	9.2	10.4	K5	2	..	5402m	69	6510	49.6	-58 39	9.7	9.8	A2	2	..	37619b
20	3117	49.4	+6 22	9.5	10.7	K5	1	..	13817b	70	6469	49.6	-59 11	9.0	9.8	K2	2	..	37619b
21	3020	49.4	+2 26	8.1	9.3	K5	3	..	13412b	71	6471	49.6	-59 39	9.5	9.5	A0	3	..	21769b
22	4363	49.4	-13 7	9.9	10.0	A2	2	..	40580b	72	5425	49.6	-61 19	9.3	9.3	A0	3	..	21769b
23	4357	49.4	-20 23	10.3	11.5	K5	1	..	37760b	73	3184	49.6	-65 39	8.5	9.6	K2	5	..	21785b
24	4052	49.4	-23 4	8.6	8.4	A2	6	..	40284b	74	634	49.7	+74 43	9.27	10.45	K5	1	..	35006i
25	12379	49.4	-24 23	8.9	8.9	K0	4	..	40284b	75	2227	49.7	+50 0	9.92	10.92	K0	1	..	38766i
26	11244	49.4	-32 50	10.2	10.4	F8	2	..	40279b	76	3033	49.7	+19 43	8.65	9.21	G0	2	..	37751i
27	10610	49.4	-34 30	11.1	10.2	A2	2	..	39928b	77	3115	49.7	+9 37	8.5	9.6	K2	5	..	13817b
28	10611	49.4	-34 32	10.0	10.9	A2	3	..	14367b	78	3111	49.7	+5 31	7.68	8.68	K0	7	..	13817b
29	10590	49.4	-35 23	7.83	8.5	G5	6	..	40279b	79	3142	49.7	+1 18	9.1	10.1	K0	2	..	13412b
30	10518	49.4	-36 8	9.3	9.9	A2	4	..	14367b	80	4366	49.7	-12 9	9.9	10.9	K0	1	..	40580b
31	10070	49.4	-40 25	7.6	7.2	A3	3	..	43284b	81	4367	49.7	-13 6	10.3	11.3	K0	1	..	40580b
32	10916	49.4	-42 12	9.2	8.9	B9	5	..	21781b	82	12384	49.7	-24 20	10.9	9.4	F	2	..	40284b
33	10484	49.4	-46 30	8.3	8.7	B9	4	..	42502b	83	10652	49.7	-27 40	8.5	8.8	K0	4	..	40085b
34	9635	49.4	-51 26	10.6	9.9	A	1	R	19894b	84	10524	49.7	-36 18	8.9	9.0	A0	7	..	14367b
35	6508	49.4	-58 6	9.1	10.0	F0	3	..	37619b	85	10444	49.7	-41 23	10.2	10.1	A0	3	..	21781b
36	3183	49.4	-65 17	9.5	9.9	F5	2	R	21785b	86	10395	49.7	-43 38	9.9	9.9	A0	4	..	21781b
37	2594	49.4	-68 13	8.2	8.5	F2	5	..	14146b	87	10393	49.7	-43 39	10.1	10.2	F8	2	..	21781b
38	2123	49.5	+46 21	8.6	9.4	G5	2	E	37730i	88	10342	49.7	-45 23	9.1	9.7	F5	3	..	42502b
39	2518	49.5	+44 50	9.12	10.47	Ma	..	..	M	89	9638	49.7	-51 14	8.7	8.4	A5	3	..	19894b
40	2488	49.5	+28 7	10.1	10.7	G0	4	..	5402m	90	7377	49.7	-58 1	7.5	7.9	B8	9	..	37619b
41	3032	49.5	+19 5	8.5	9.0	F8	4	..	37751i	91	6512	49.7	-58 24	8.5	9.5	K0	4	..	37619b
42	3027	49.5	+13 40	8.9	10.0	K2	2	..	38754i	92	6474	49.7	-59 34	8.5	9.5	K0	3	..	21769b
43	3108	49.5	+5 36	7.08	8.08	K0	9	..	13817b	93	5428	49.7	-61 47	8.1	8.6	A0	7	..	21769b
44	4286	49.5	-13 35	9.2	10.2	K0	2	..	40580b	94	3186	49.7	-65 12	9.45	10.1	G5	2	..	21785b
45	11190	49.5	-25 59	5.61	6.1	A2	..	0,10	56,93	95	2856	49.7	-66 18	9.9	9.9	A0	2	..	21785b
46	10521	49.5	-36 37	8.6	9.1	F5	7	..	14367b	96	2855	49.7	-66 26	9.9	9.9	A0	1	..	21785b
47	10752	49.5	-38 33	8.2	10.1	K0	3	..	14367b	97	1894	49.7	-72 11	6.60	8.2	K2	9	..	14146b
48	10237	49.5	-39 35	6.13	6.7	B9	6	..	43284b	98	266	49.8	+85 33	9.1	9.7	G	2	..	37820i
49	9105	49.5	-52 7	8.8	8.7	A0	3	..	19894b	99	2489	49.8	+28 26	10.8	11.8	K0	2	..	5402m
50	6842	49.5	-53 29	8.5	9.7	K0	1	..	19894b	100	3116	49.8	+8 52	6.20	6.26	A2	8	..	38754i

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

142500

15<sup>h</sup> 49<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3112	49.8	+ 5 18	9.8	10.2	F5	2	..	13817b	51	2228	50.1	+ 50 44	8.9	9.9	Ko	2	..	38736i
2	4309	49.8	-14 45	9.9	10.0	A5	4	..	40580b	52	2736	50.1	+ 29 44	9.66	10.66	Ko	4	..	5402m
3	4214	49.8	-15 17	9.7	10.7	Ko	1	..	40580b	53	2883	50.1	+ 11 49	7.7	7.8	A2	7	..	38754i
4	4177	49.8	-16 58	9.4	10.0	Go	3	..	37760b	54	4000	50.1	- 4 11	9.7	9.7	Ao	2	..	41242b
5	12385	49.8	-24 24	10.6	9.2	Go	3	..	40284b	55	4105	50.1	- 8 34	9.4	9.4	Ao	3	..	41242b
6	12386	49.8	-24 55	11.1	10.0	Go	1	..	40284b	56	4312	50.1	-14 52	8.1	8.6	F8	7	..	40580b
7	10077	49.8	-40 11	9.28	8.9	Fo	6	..	21781b	57	4450	50.1	-17 44	8.1	9.1	Ko	5	..	40300b
8	10921	49.8	-42 16	10.1	10.1	G5	3	..	21781b	58	10620	50.1	-35 2	9.05	9.9	G5	3	..	40279b
9	10922	49.8	-42 21	10.6	10.4	G5	1	..	21781b	59	10528	50.1	-36 16	10.4	10.2	Ao	3	..	14367b
10	10396	49.8	-43 12	9.5	10.5	G5	2	..	21781b	60	10602	50.1	-37 32	var.	var.	Pec.	1	R	37631b
11	9641	49.8	-51 50	9.7	9.0	Fo	1	..	19894b	61	10241	50.1	-39 7	10.6	10.7	Ko	1	..	37631b
12	6515	49.8	-58 44	7.7	8.9	Ko	6	..	37619b	62	10923	50.1	-42 36	10.6	10.1	F8	2	..	21781b
13	5062	49.8	-62 11	9.4	9.8	F5	1	..	21769b	63	10519	50.1	-44 18	10.1	9.6	B8	5	1,4	21781b
14	3320	49.8	-64 45	5.88	5.7	B8	..	..	56,137	64	6860	50.1	-53 29	8.6	7.8	Ao	6	..	19894b
15	2857	49.8	-66 59	9.8	9.9	A2	3	..	21785b	65	6849	50.1	-54 7	9.0	9.4	Bo	2	..	19894b
16	923	49.9	+66 43	8.2	8.3	A3	6	..	37746i	66	6848	50.1	-54 40	9.9	10.0	A3	3	..	21734b
17	1094	49.9	+64 32	9.4	10.0	Go	2	..	37746i	67	7101	50.1	-56 52	7.5	7.9	Ao	9	..	37619b
18	2540	49.9	+43 41	9.4	10.5	K2	1	..	38718i	68	3748	50.1	-63 5	9.4	10.5	K2	1	..	21769b
19	2490	49.9	+28 12	9.9	10.5	Go	5	..	5402m	69	2858	50.1	-66 46	9.1	9.7	Go	3	..	21785b
20	4368	49.9	-12 54	10.1	11.1	Ko	1	..	40580b	70	1938	50.1	-71 43	9.4	9.4	Ao	3	..	14146b
21	4196	49.9	-18 30	8.8	10.2	Mb	2	..	40300b	71	2737	50.2	+29 27	10.8	11.4	Go	2	..	5402m
22	4359	49.9	-20 39	9.1	10.4	K2	3	2,1	37760b	72	2492	50.2	+28 11	10.3	10.9	Go	2	..	5402m
23	11111	49.9	-26 29	9.7	9.2	Go	3	..	40085b	73	2843	50.2	+21 32	9.1	9.7	G	2	..	37751i
24	11257	49.9	-32 48	10.2	9.5	Ao	4	..	40279b	74	3166	50.2	+20 36	5.76	6.94	K5	8	..	37751i
25	11255	49.9	-32 56	10.4	10.4	Go	2	..	40279b	75	3113	50.2	+ 5 23	8.7	9.0	Fo	7	..	13817b
26	10819	49.9	-33 10	10.0	11.0	F5	1	..	39928b	76	3114	50.2	+ 5 20	9.1	9.4	F2	2	..	13817b
27	10447	49.9	-42 2	8.2	9.6	Go	5	..	21781b	77	4227	50.2	-21 14	8.6	8.6	Ao	6	..	40300b
28	10457	49.9	-47 7	9.5	9.9	B8	1	..	42502b	78	12585	50.2	-23 11	9.2	8.3	Ao	6	..	40284b
29	10456	49.9	-47 51	6.47	6.9	F2	5	..	3930b	79	12584	50.2	-23 37	8.3	8.5	A5	7	..	40284b
30	9643	49.9	-51 10	9.1	8.7	Ao	3	..	19894b	80	11193	50.2	-25 31	9.2	8.8	A2	6	..	40284b
31	1838	50.0	+56 7	5.92	6.92	Ko	9	..	38736i	81	10084	50.2	-40 47	8.2	9.3	Ma	4	..	21781b
32	2124	50.0	+46 20	7.32	8.10	G5	5	0,3-	37730i	82	10178	50.2	-49 24	9.2	9.0	B9	2	..	42502b
33	2643	50.0	+41 2	8.32	9.39	K2	2	2,2	38718i	83	9648	50.2	-51 50	9.9	9.6	Go	2	..	19894b
34	2491	50.0	+28 29	10.8	11.4	Go	2	..	5402m	84	7105	50.2	-56 7	7.0	8.3	Ko	7	..	37619b
35	3117	50.0	+ 9 34	8.3	8.8	F8	3	..	38754i	85	6481	50.2	-59 13	8.7	8.6	B8	5	..	37619b
36	3118	50.0	+ 8 53	9.0	10.2	K5	2	..	13817b	86	6242	50.2	-60 25	8.3	9.2	K2	5	..	21769b
37	3119	50.0	+ 6 13	9.8	10.4	G	1	..	13817b	87	3750	50.2	-63 38	9.1	9.9	G5	1	..	21769b
38	4311	50.0	-14 44	9.4	9.9	F8	4	..	40580b	88	2859	50.2	-66 23	9.4	9.4	B9	4	..	21785b
39	4360	50.0	-20 20	9.9	11.0	Ko	2	..	37760b	89	3002	50.2	-67 5	9.7	9.7	Ao	4	..	21785b
40	11192	50.0	-25 40	8.1	8.2	A2	8	..	40284b	90	3001	50.2	-67 37	9.5	9.6	A2	3	..	21785b
41	11113	50.0	-26 54	9.7	8.8	A2	4	..	40085b	91	1939	50.2	-71 38	8.0	8.6	Go	5	..	14146b
42	12407	50.0	-31 29	6.53	7.3	F5	10	..	40085b	92	2345	50.3	+45 15	8.7	8.8	A2	3	..	37730i
43	10598	50.0	-35 27	8.9	10.0	G5	4	..	37631b	93	2923	50.3	+10 37	9.3	9.7	F5	1	..	38754i
44	10401	50.0	-43 54	9.9	10.8	K5	1	..	21781b	94	3429	50.3	+ 0 22	8.5	9.3	G5	5	..	13412b
45	10398	50.0	-44 2	10.3	10.5	Fo	2	..	21781b	95	3846	50.3	- 4 7	8.7	9.9	K5	1	..	41242b
46	10173	50.0	-49 58	7.94	7.8	A2	7	..	19894b	96	4106	50.3	- 8 21	7.19	7.97	G5	8	..	41242b
47	10011	50.0	-50 44	10.1	9.4	B9	2	..	19894b	97	4204	50.3	-10 39	9.4	10.2	G5	2	..	40580b
48	6838	50.0	-55 47	9.1	8.9	B8	4	..	37619b	98	4451	50.3	-17 35	8.9	10.1	K5	2	..	40300b
49	6479	50.0	-59 8	9.0	9.2	B9	4	..	37619b	99	4452	50.3	-17 58	8.9	9.9	Ko	3	..	40300b
50	3000	50.0	-67 41	8.6	9.4	G5	2	..	21785b	100	11197	50.3	-25 9	9.16	8.8	A5	3	..	40284b



## THE HENRY DRAPER CATALOGUE.

142600

15<sup>h</sup> 50<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10660	50.3	-27 46	8.9	9.1	K2	3	..	40085b	51	2860	50.6	-67 3	9.9	9.9	Ao	2	..	21785b
2	10622	50.3	-34 9	8.9	9.1	Ao	5	..	40279b	52	1941	50.6	-71 7	8.8	10.2	Ma	2	..	14146b
3	10759	50.3	-38 13	8.9	9.8	F5	3	..	14367b	53	530	50.7	+81 37	8.7	9.5	G5	4	5.4	37813i
4	10460	50.3	-47 21	9.5	9.9	B9	3	..	42502b	54	2038	50.7	+51 45	8.8	9.8	Ko	2	..	38766i
5	9649	50.3	-51 27	9.7	9.3	B9	2	..	19894b	55	2651	50.7	+42 48	9.6	10.2	G	2	..	37730i
6	6845	50.3	-55 57	8.8	9.1	G5	4	..	37619b	56	2846	50.7	+21 52	8.3	9.1	G5	2	..	37751i
7	5067	50.3	-62 13	9.5	9.6	A3	2	R	21769b	57	2929	50.7	+14 55	8.58	9.00	F5	4	..	38754i
8	5066	50.3	-62 15	8.4	9.8	Ma	2	..	37619b	58	2925	50.7	+10 24	8.6	8.9	Fo	3	..	38754i
9	3188	50.3	-65 40	9.4	10.2	G5	1	..	21785b	59	3055	50.7	+7 48	9.1	9.5	F5	3	..	13817b
10	1271	50.3	-76 3	8.0	9.2	K5	3	..	40252b	60	3022	50.7	+2 50	9.0	9.8	G5	2	..	17083b
11	594	50.3	-83 32	8.4	9.4	Ko	4	..	13442b	61	3118	50.7	-1 52	6.72	7.28	Go	7	0.8	41188b
12	1096	50.4	+64 2	8.6	9.6	Ko	3	..	37746i	62	4260	50.7	-9 26	8.7	9.7	Ko	2	..	41242b
13	2642	50.4	+32 38	8.5	8.6	A3	7	..	38719i	63	4291	50.7	-13 24	10.6	10.7	A2	2	..	40580b
14	3105	50.4	+8 31	9.1	10.1	Ko	1	..	13817b	64	4178	50.7	-16 28	9.4	9.9	F8	3	..	40300b
15	4312	50.4	-6 58	9.4	9.5	A3	2	..	41242b	65	4229	50.7	-21 31	9.4	9.8	Ko	3	..	40300b
16	4453	50.4	-18 3	9.4	10.8	Ma	1	..	37760b	66	4228	50.7	-21 44	8.8	8.9	A3	4	..	40300b
17	12674	50.4	-30 21	9.5	9.2	A2	6	..	40085b	67	12590	50.7	-24 3	9.9	9.3	F8	3	..	40284b
18	10408	50.4	-43 57	9.7	10.2	G5	4	..	21781b	68	11118	50.7	-26 30	9.5	9.7	K2	1	..	40085b
19	10452	50.4	-48 19	9.9	9.9	A2	2	..	42502b	69	11714	50.7	-28 55	4.02	3.85	B3	..	R	28,210
20	6857	50.4	-54 34	9.1	10.2	K2	1	..	21734b	70	12679	50.7	-30 59	11.1	10.1	Ao	2	..	40085b
21	6855	50.4	-55 4	9.4	9.4	Ao	4	..	21734b	71	10090	50.7	-40 17	10.6	9.5	A2	4	..	21781b
22	6528	50.4	-58 10	9.2	9.5	G5	2	..	37619b	72	10459	50.7	-41 31	9.6	10.3	G5	1	..	21781b
23	5069	50.4	-62 47	8.9	8.9	Ao	5	..	21769b	73	10187	50.7	-49 13	9.5	9.9	Ko	1	..	42502b
24	2475	50.4	-69 14	9.6	10.0	F5	1	..	14146b	74	10017	50.7	-50 23	8.3	8.1	B9	5	..	19894b
25	1895	50.4	-72 47	9.5	9.5	B9	2	..	14146b	75	9116	50.7	-52 43	8.7	8.7	A2	3	..	19894b
26	1778	50.5	+54 11	8.6	9.6	Ko	3	..	38736i	76	3326	50.7	-64 34	7.9	9.0	K2	5	..	21785b
27	4313	50.5	-6 51	9.7	10.8	K2	1	..	41242b	77	2145	50.7	-70 33	9.3	9.7	F5	4	..	14146b
28	4362	50.5	-20 29	8.3	9.0	K5	4	..	40300b	78	1683	50.7	-73 14	6.75	6.9	A3	10	..	14146b
29	10826	50.5	-33 40	5.37	5.37	Ao	..	R	28,210	79	2930	50.8	+39 1	8.7	9.5	G5	2	..	38718i
30		50.5	-33 40	5.73	5.73	Ao	..	R		80	2844	50.8	+16 21	9.0	10.0	K	2	..	37751i
31	10522	50.5	-44 49	9.9	10.2	G5	2	..	37577b	81	2960	50.8	+14 35	8.1	8.4	Fo	5	..	38754i
32	10462	50.5	-47 48	9.9	9.9	Go	1	..	42502b	82	3124	50.8	+6 0	9.0	10.2	K5	2	..	13817b
33	6869	50.5	-53 17	9.6	9.7	A3	2	..	19894b	83	3082	50.8	+4 38	8.10	9.28	K5	4	..	13817b
34	6868	50.5	-54 4	8.7	9.1	Bo	2	..	19894b	84	4314	50.8	-6 23	9.7	10.3	Go	1	..	41242b
35	3005	50.5	-67 7	9.3	9.9	Go	2	..	21785b	85	4371	50.8	-13 0	10.1	11.2	K2	1	..	40580b
36	756	50.5	-82 4	8.3	9.5	K5	1	..	13442b	86	4363	50.8	-20 8	8.38	9.2	G5	4	..	40300b
37	2898	50.6	+22 27	8.06	8.62	Go	4	..	37751i	87	12591	50.8	-23 49	11.1	10.7	A2	1	..	40284b
38	2924	50.6	+9 56	9.12	9.68	Go	3	..	13817b	88	11202	50.8	-25 53	10.4	9.5	A3	1	..	40085b
39	3120	50.6	+9 32	6.99	7.99	Ko	4	..	38754i	89	12680	50.8	-30 41	8.9	10.6	K5	1	..	40085b
40	4290	50.6	-14 6	6.39	6.81	F5	..	3,10	56,137	90	12417	50.8	-31 58	9.4	10.4	F2	2	..	39928b
41	..	50.6	-18 1	var.	var.	Md	..	R	M	91	10611	50.8	-35 53	5.95	6.9	Go	9	R	40279b
42	4197	50.6	-18 19	9.82	10.82	Ko	2	..	37760b	92		50.8	-35 53			A2			
43	10607	50.6	-35 38	7.03	6.8	A2	..	0.9	56,137	93	10534	50.8	-36 54	8.7	9.6	F8	4	..	14367b
44	10760	50.6	-38 47	8.7	10.1	Ko	3	..	14367b	94	10248	50.8	-40 5	9.58	10.4	Ma	2	..	21781b
45	10246	50.6	-39 59	9.5	9.5	Ao	5	..	21781b	95	10461	50.8	-42 2	8.9	10.1	Ko	2	..	21781b
46	10087	50.6	-40 38	8.9	9.8	Ko	3	..	21781b	96	6868	50.8	-54 26	8.6	10.0	K5	1	..	19894b
47	10456	50.6	-41 31	8.6	8.9	F2	5	..	21781b	97	6531	50.8	-59 0	8.4	8.9	Ko	5	..	37619b
48	7398	50.6	-57 29	7.7	9.7	Ma	3	..	37619b	98	6252	50.8	-60 49	9.0	9.2	Go	4	..	21769b
49	7400	50.6	-57 38	10.1	10.2	A2	2	..	37619b	99	5073	50.8	-62 31	6.99	8.6	K2	7	..	21769b
50	3754	50.6	-63 35	9.6	9.7	A2	2	..	21769b	100	1510	50.8	-74 17	8.4	8.7	F2	8	..	14146b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

142700

15<sup>h</sup> 50<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	140	50.8	-88 17	9.7	10.7	Ko	2	..	2298ob	51	12683	51.1	-30 30	8.1	8.7	K2	4	..	40085b
2	2554	50.9	+27 2	10.8	11.6	G5	1	..	5402m	52	11277	51.1	-32 30	9.0	10.6	G5	2	..	39928b
3	4314	50.9	-14 32	6.17	6.17	Ao	..	..	56.93	53	10095	51.1	-40 20	11.1	10.4	G	2	..	21781b
4	4230	50.9	-21 56	8.7	8.7	F5	6	..	4030ob	54	10094	51.1	-40 43	8.7	8.6	B3	6	..	21781b
5	4057	50.9	-22 54	8.1	7.5	Ao	7	..	4030ob	55	9657	51.1	-51 29	8.5	8.7	K2	3	..	19894b
6	11717	50.9	-28 24	9.1	8.8	Ko	4	..	40085b	56	6875	51.1	-54 22	9.4	9.4	Ao	4	..	19894b
7	12682	50.9	-30 26	10.2	10.7	K5	1	..	40085b	57	6867	51.1	-55 41	9.7	9.7	Ao	4	..	37619b
8	10250	50.9	-40 5	11.1	10.1	A2	2	..	21781b	58	6543	51.1	-58 27	8.1	7.7	Bo	6	..	36331b
9	10934	50.9	-42 20	7.6	8.6	K5	7	..	21781b	59	5077	51.1	-62 25	8.5	8.9	F5	4	..	21769b
10	10414	50.9	-43 26	9.7	10.2	G5	3	..	21781b	60	3332	51.1	-64 30	9.1	9.1	B9	4	..	21785b
11	10471	50.9	-47 57	9.7	9.9	G5	1	..	42502b	61	3191	51.1	-66 0	10.4	10.4	A	2	..	21785b
12	10021	50.9	-50 45	10.6	9.4	A2	2	..	19894b	62	2754	51.2	+26 18	8.5	9.5	Ko	6	..	5402m
13	6882	50.9	-53 47	8.2	9.1	F2	4	R	19894b	63	3036	51.2	+18 55	6.22	6.20	B9	10	..	37751i
14		50.9	-53 47			A2	4			64	4262	51.2	-9 46	9.4	10.6	K5	1	..	4058ob
15	6861	50.9	-56 4	9.5	9.5	B9	2	..	37619b	65	4207	51.2	-10 41	8.7	9.7	Ko	4	..	4058ob
16	3757	50.9	-63 59	8.7	9.7	Ko	3	..	21769b	66	4293	51.2	-13 17	8.0	9.0	Ko	7	..	4058ob
17	3329	50.9	-64 17	9.0	10.1	K2	1	..	21769b	67	4204	51.2	-18 50	10.1	10.7	Go	2	..	3776ob
18	3327	50.9	-64 45	8.7	9.7	Ko	1	..	21785b	68	4232	51.2	-21 17	9.1	8.9	F8	4	..	4030ob
19	2862	50.9	-66 47	9.6	9.7	A2	2	..	21785b	69	12686	51.2	-30 52	10.9	9.5	A2	3	..	40085b
20	3006	50.9	-67 55	8.6	9.7	K2	2	..	21785b	70	11280	51.2	-32 30	8.6	8.6	G5	6	..	39928b
21	2598	50.9	-68 24	7.7	8.9	K5	4	..	14146b	71	10541	51.2	-36 34	10.2	10.9	K2	1	..	37631b
22	3099	51.0	+3 9	8.5	9.3	G5	3	E	17083b	72	10769	51.2	-38 44	9.8	10.4	G5	2	..	37631b
23	4217	51.0	-15 33	8.3	9.5	K5	4	3,4	4030ob	73	10530	51.2	-45 1	9.58	10.5	K5	2	..	37577b
24	4179	51.0	-16 23	9.1	10.3	K5	3	..	4030ob	74	6888	51.2	-53 47	8.5	9.1	B8	4	..	19894b
25	4180	51.0	-16 32	9.1	9.2	A2	5	..	4030ob	75	6878	51.2	-54 8	9.2	9.7	B2	2	..	21734b
26	12397	51.0	-24 50	9.7	9.2	A3	3	..	40284b	76	6869	51.2	-55 30	10.0	10.0	B8	2	..	37619b
27	12119	51.0	-29 43	8.1	8.0	F8	6	..	40085b	77	7416	51.2	-57 29	9.1	9.1	Ao	4	..	37619b
28	10765	51.0	-38 58	8.2	9.2	G5	5	..	14367b	78	6256	51.2	-60 23	9.3	9.3	B8	3	..	37619b
29	10251	51.0	-39 23	9.2	9.8	Ao	5	0,3	37631b	79	1082	51.2	-78 27	9.0	9.1	A2	1	..	40252b
30	10415	51.0	-43 41	9.3	9.9	Mc	3	..	21781b	80	2542	51.3	+43 26	5.54	6.89	Ma	7	..	3773oi
31	9124	51.0	-52 28	8.7	9.1	G5	1	..	19894b	81	3108	51.3	+8 13	7.9	9.0	K2	6	..	13817b
32	7406	51.0	-57 37	9.1	9.4	A2	4	..	37619b	82	4294	51.3	-13 45	9.4	10.2	G5	3	..	4058ob
33	5075	51.0	-62 21	8.7	9.5	G5	2	..	21769b	83	4316	51.3	-15 3	9.56	10.34	G5	2	..	4058ob
34	3330	51.0	-64 7	9.0	9.0	Ao	5	..	21769b	84	12403	51.3	-24 57	8.60	8.8	A3	5	..	40284b
35	3007	51.0	-67 50	8.5	8.5	B9	5	..	21785b	85	10827	51.3	-33 28	9.8	10.7	F2	2	..	39928b
36	1084	51.1	+65 15	9.6	10.2	Go	3	..	37746i	86	10630	51.3	-34 52	8.4	9.3	A5	4	..	40279b
37	1435	51.1	+62 38	9.6	10.6	K	1	..	37746i	87	10772	51.3	-38 18	9.3	9.2	A2	4	..	14367b
38	1639	51.1	+60 25	9.1	9.9	G5	3	..	37746i	88	10770	51.3	-38 45	8.9	10.4	Ko	2	..	37631b
39	1597	51.1	+58 15	9.6	10.7	K2	2	..	38767i	89	10468	51.3	-48 44	10.1	9.6	Ao	1	..	42502b
40	1824	51.1	+53 0	9.0	9.8	G5	2	..	38736i	90	9128	51.3	-52 49	8.6	9.4	Ko	1	..	19894b
41	2346	51.1	+45 14	8.9	9.9	K	2	E	3773oi	91	5080	51.3	-62 43	9.2	9.5	Fo	4	..	21769b
42	2709	51.1	+34 40	6.95	7.01	A2	7	..	38498i	92	5081	51.3	-62 47	9.9	10.0	A2	2	..	21769b
43	2753	51.1	+26 48	8.5	8.9	F5	4	..	38719i	93	1080	51.3	-78 59	8.8	9.4	Go	1	..	40252b
44	2934	51.1	+17 20	8.5	9.6	K2	2	..	37751i	94	595	51.3	-83 35	9.2	10.2	Ko	1	..	43458b
45	4206	51.1	-10 48	8.7	9.5	G5	4	..	4058ob	95	531	51.4	+81 14	7.00	8.07	K2	5	2,3	37813i
46	4372	51.1	-12 38	9.9	10.7	G5	1	..	4058ob	96	2739	51.4	+29 49	7.66	7.66	Ao	8	..	38719i
47	4218	51.1	-15 12	10.1	10.9	G5	2	..	4058ob	97	2915	51.4	+11 56	8.5	9.7	K5	1	..	38754i
48	4202	51.1	-18 36	10.6	11.0	F5	1	..	3776ob	98	2927	51.4	+10 36	7.7	8.7	Ko	5	..	38754i
49	10667	51.1	-27 21	7.17	8.0	F2	7	..	40085b	99	3109	51.4	+8 37	9.1	9.5	F5	2	..	13817b
50	10666	51.1	-27 31	8.5	9.1	Ko	3	..	40085b	100	4373	51.4	-12 27	9.7	9.8	A3	3	..	4058ob

## THE HENRY DRAPER CATALOGUE.

142800

15<sup>h</sup> 51<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
		m.	°									m.	°						
1	4374	51.4	-12 40	9.4	10.0	Go	2	..	4058ob	51	12426	51.7	-31 26	7.14	7.5	B9	9	..	40085b
2	4296	51.4	-14 5	8.9	9.9	Ko	4	..	4058ob	52	10945	51.7	-42 27	7.5	8.3	A3	9	..	21781b
3	4220	51.4	-15 11	10.1	10.5	F5	2	..	4058ob	53	10205	51.7	-49 57	9.46	9.7	Ko	1	..	42502b
4	4221	51.4	-15 44	6.80	8.15	Ma	6	..	4030ob	54	10035	51.7	-50 8	9.9	9.7	Ao	1	..	42502b
5	4233	51.4	-21 11	6.96	7.1	B9	9	..	4030ob	55	9666	51.7	-52 1	9.2	8.7	Ao	3	..	19894b
6	11122	51.4	-26 52	11.1	9.5	A3	1	..	40085b	56	6505	51.7	-59 26	9.2	9.2	B9	4	..	37619b
7	10612	51.4	-37 23	10.4	10.8	G5	1	..	37631b	57	3763	51.7	-63 9	9.6	9.6	Ao	2	..	21769b
8	10423	51.4	-43 47	6.96	7.3	A2	3	..	3930b	58	3194	51.7	-65 23	9.6	9.6	Ao	3	..	21785b
9	10533	51.4	-44 14	7.0	8.2	K2	4	..	20092b	59	1896	51.7	-72 29	8.3	9.4	K2	4	..	14146b
10	10474	51.4	-47 44	9.7	9.9	Ao	2	..	42502b	60	2849	51.8	+15 59	3.86	4.28	F5	..	R	6908c
11	10028	51.4	-50 37	9.5	9.7	Ko	1	..	19894b	61	2963	51.8	+14 10	8.7	9.5	G5	2	..	38754i
12	6882	51.4	-54 26	10.0	10.0	Ao	2	..	21734b	62	3127	51.8	+6 12	7.9	8.9	Ko	7	..	13817b
13	2864	51.4	-67 4	9.8	9.9	A2	3	..	21785b	63	4077	51.8	-2 42	8.5	8.5	Ao	4	..	41188b
14	1684	51.4	-73 19	7.4	7.4	Ao	8	..	14146b	64	4199	51.8	-6 1	7.01	7.01	Ao	8	..	41188b
15	1842	51.5	+56 50	9.7	10.7	Ko	1	..	38767i	65	4317	51.8	-6 32	7.9	8.0	A5	5	..	41188b
16	2494	51.5	+28 43	8.1	8.5	F5	6	..	38719i	66	4111	51.8	-9 0	9.1	9.2	A5	2	..	41242b
17	3036	51.5	-0 36	9.1	9.6	F8	3	..	41188b	67	4235	51.8	-21 46	9.4	10.7	Go	1	..	37760b
18	4317	51.5	-14 54	9.9	10.5	Go	1	..	4058ob	68	11125	51.8	-26 41	10.4	9.5	Go	1	..	40085b
19	12413	51.5	-24 37	10.6	9.2	F8	3	..	40284b	69	12696	51.8	-30 11	9.26	9.3	Go	3	..	40085b
20	11285	51.5	-32 11	9.6	10.4	Ko	2	..	39928b	70	10259	51.8	-39 48	10.2	9.8	F8	4	..	21781b
21	10468	51.5	-41 22	8.3	8.1	B9	10	..	21781b	71	10538	51.8	-44 40	8.7	9.0	G5	2	..	20092b
22	10535	51.5	-44 19	7.5	8.5	K2	3	..	20092b	72	10362	51.8	-45 20	9.5	9.9	B8	3	..	37577b
23	10472	51.5	-48 49	8.5	8.7	B9	4	..	42502b	73	10207	51.8	-50 2	10.3	9.3	B9	1	..	42502b
24	6896	51.5	-53 22	8.4	9.7	K5	2	..	19894b	74	9134	51.8	-52 9	9.2	9.6	G5	1	..	19894b
25	6877	51.5	-55 58	9.7	9.7	B9	3	..	37619b	75	7147	51.8	-56 11	9.6	9.7	A3	3	..	37619b
26	2479	51.5	-69 10	8.6	9.7	Ko	1	..	14146b	76	7428	51.8	-57 45	7.2	8.0	B9	7	..	37619b
27	1197	51.5	-77 33	8.7	9.2	F8	2	..	40252b	77	2865	51.8	-66 53	9.9	9.9	Ao	3	..	21785b
28	2229	51.6	+50 14	9.4	10.4	Ko	1	..	38766i	78	1130	51.8	-76 58	7.9	9.0	K2	4	..	40252b
29	2938	51.6	+40 3	8.1	8.2	A2	4	0,4	38718i	79	596	51.8	-83 52	8.6	9.4	G5	3	..	13442b
30	3167	51.6	+20 29	8.7	9.0	F2	2	..	37751i	80	3087	51.9	+4 17	8.3	9.5	K5	3	..	13817b
31	4209	51.6	-10 45	9.2	10.2	Ko	3	..	4058ob	81	3040	51.9	-0 27	7.9	9.1	K5	3	..	13412b
32	10618	51.6	-35 14	8.6	9.9	F5	3	..	14367b	82	4007	51.9	-5 6	7.70	8.12	F5	6	..	41188b
33	10544	51.6	-36 14	10.2	10.8	K2	2	..	37631b	83	4364	51.9	-20 41	5.87	5.8	B5	..	2,6	56,137
34	10615	51.6	-38 2	9.2	10.2	Ko	3	..	14367b	84	12597	51.9	-23 14	6.68	6.8	B9	..	0,10	56,137
35	10258	51.6	-39 45	10.9	10.4	Ao	1	..	21781b	85	11218	51.9	-25 34	10.2	9.5	Go	2	..	40284b
36	10031	51.6	-50 59	9.9	9.3	Ao	2	..	19894b	86	11126	51.9	-26 24	10.2	9.8	K2	1	..	40085b
37	9665	51.6	-51 10	9.7	9.3	Ao	2	..	19894b	87	10835	51.9	-33 46	9.3	9.2	B9	5	..	40279b
38	9664	51.6	-51 17	11.0	9.3	F8	2	..	19894b	88	10547	51.9	-36 8	9.6	9.9	F5	2	..	14367b
39	6889	51.6	-54 17	8.4	9.4	K5	2	..	19894b	89	10620	51.9	-37 12	6.41	7.1	G5	9	..	14367b
40	7141	51.6	-56 29	7.8	8.0	Ao	5	..	37619b	90	10037	51.9	-50 13	9.65	9.3	Ao	2	..	42502b
41	6553	51.6	-58 54	9.8	9.8	B9	3	..	37619b	91	9670	51.9	-52 2	9.2	9.0	Go	1	..	19894b
42	3193	51.6	-65 37	8.7	9.3	Go	5	..	21785b	92	7150	51.9	-56 31	7.4	7.8	Ao	9	..	37619b
43	1687	51.7	+59 22	9.1	9.5	F5	1	R	38764i	93	6510	51.9	-59 28	9.5	9.6	A2	3	..	37619b
44	1686	51.7	+59 19	8.8	9.3	F8	4	..	38767i	94	2866	51.9	-66 34	8.0	9.4	Mb	5	..	21785b
45	2710	51.7	+34 13	8.3	8.7	F5	5	..	38719i	95	2146	51.9	-71 2	9.2	9.2	Ao	5	..	14146b
46	2933	51.7	+15 2	8.07	8.21	A5	3	0,2 R	38754i	96	1943	51.9	-71 30	9.3	9.4	A2	4	..	14146b
47	2929	51.7	+10 25	9.0	10.2	K5	2	..	13817b	97	1685	51.9	-73 51	9.4	9.5	A2	3	..	14146b
48	3038	51.7	-0 40	8.4	9.6	K5	2	..	41188b	98	2555	52.0	+27 20	8.1	9.1	Ko	4	..	38719i
49	4316	51.7	-6 41	8.3	9.4	K2	2	..	41188b	99	3168	52.0	+20 43	8.3	8.9	Go	3	..	37751i
50	4211	51.7	-10 36	7.71	8.71	Ko	7	..	4058ob	100	4200	52.0	-5 40	9.4	10.2	G5	1	..	41242b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

142900

15<sup>h</sup> 52<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4265	52.0	- 9 16	9.4	10.2	G5	1	..	41229b	51	2931	52.4	+10 22	9.1	9.4	Fo	4	..	13817b
2	4058	52.0	-22 15	8.7	8.6	A2	4	..	40300b	52	3112	52.4	+ 8 5	9.1	9.7	Go	1	..	13817b
3	10777	52.0	-38 53	10.9	10.7	A2	2	R	37631b	53	4214	52.4	-10.50	9.4	9.7	Fo	2	..	40580b
4	10777	52.0	-38 53	10.9	10.7	A2	1	..	37631b	54	10680	52.4	-28 0	8.7	8.6	Fo	4	..	40085b
5	10211	52.0	-49 4	8.5	8.8	F2	3	..	42502b	55	10626	52.4	-35 18	8.9	10.4	K5	1	..	14367b
6	6512	52.0	-59 26	8.8	9.8	Ko	2	..	37619b	56	10110	52.4	-40 51	10.0	10.1	F2	2	..	21781b
7	6513	52.0	-59 32	8.8	9.6	G5	2	..	37619b	57	10047	52.4	-50 48	9.5	9.4	K2	1	..	42502b
8	2712	52.1	+38 14	5.47	5.81	F2	10	O, R	38718i	58	9142	52.4	-52 49	9.1	9.1	Ao	2	..	19894b
9	2851	52.1	+21 33	8.3	9.3	Ko	3	..	37751i	59	6898	52.4	-55 16	8.7	9.7	Ko	2	..	37619b
10	2918	52.1	+12 47	6.94	7.28	F2	8	..	38754i	60	6280	52.4	-60 42	9.3	9.3	Ao	4	O, 2	37619b
11	4201	52.1	- 5 56	9.1	10.1	Ko	1	..	41242b	61	1087	52.5	+65 34	6.90	7.68	G5	7	..	37746i
12	4266	52.1	- 9 19	9.9	10.5	G	1	..	41229b	62	3122	52.5	+ 9 15	9.0	9.5	F8	3	..	13817b
13	4183	52.1	-16 32	8.7	9.7	Ko	4	..	40300b	63	4321	52.5	-14 10	8.5	9.1	Go	7	..	40580b
14	4184	52.1	-16 42	10.1	10.2	A5	3	2, 1	37760b	64	12706	52.5	-30 26	8.0	8.9	Ma	3	..	40085b
15	10635	52.1	-34 31	10.6	10.4	Ao	1	..	39928b	65	10639	52.5	-34 24	9.5	10.4	G5	1	..	39928b
16	10215	52.1	-49 19	8.5	9.6	K5	1	..	42502b	66	10784	52.5	-38 8	10.4	10.4	F8	2	..	37631b
17	10216	52.1	-49 28	10.6	9.6	Ao	2	..	42502b	67	10500	52.5	-46 55	9.9	10.2	Ao	2	..	42502b
18	9674	52.1	-51 37	9.5	9.6	Ko	1	..	19894b	68	6907	52.5	-54 9	8.9	10.0	K2	1	..	19894b
19	6911	52.1	-53 44	6.38	6.2	B5	8	..	3900b	69	6563	52.5	-59 4	9.0	8.9	B8	4	..	37619b
20	7437	52.1	-57 36	8.9	8.6	Ao	4	..	37619b	70	6522	52.5	-59 34	10.1	10.1	Ao	2	..	37619b
21	6272	52.1	-61 0	7.8	8.4	Go	6	..	21769b	71	2870	52.5	-66 7	9.6	10.6	Ko	1	..	21785b
22	3340	52.1	-64 56	9.3	9.7	F5	3	..	21785b	72	2869	52.5	-66 14	10.1	10.2	A2	1	..	21785b
23	3196	52.1	-65 21	9.9	9.9	A	1	..	21785b	73	2147	52.5	-70 42	9.3	10.3	Ko	1	..	14146b
24	753	52.2	+71 39	7.9	9.1	K5	1	..	37752i	74	1944	52.5	-71 27	8.6	9.4	G5	4	..	14146b
25	2233	52.2	+50 9	8.6	9.6	Ko	4	..	38766i	75	452	52.6	+83 36	8.7	9.5	G5	3	..	37820i
26	2652	52.2	+42 51	5.61	5.56	B8	..	O, 10	56,93	76	1598	52.6	+58 24	9.1	9.5	F5	4	..	38767i
27	..	52.2	+29 32	var.	var.	Md	..	R	M	77	2945	52.6	+40 23	8.3	9.3	Ko	2	..	38718i
28	2556	52.2	+26 57	10.3	10.9	Go	2	..	5402m	78	2933	52.6	+39 43	7.92	8.26	F2	5	..	38718i
29	2994	52.2	+25 28	8.5	9.3	G5	2	..	38470i	79	3172	52.6	+20 19	8.3	8.6	F2	4	..	37751i
30	3104	52.2	+ 3 41	7.01	7.01	Ao	10	..	13817b	80	2969	52.6	+14 42	5.66	6.66	Ko	7	O, 7 R	38754i
31	4318	52.2	- 6 58	10.1	10.1	Ao	4	..	41242b	81	3435	52.6	+ 0 12	8.4	8.4	Ao	7	..	13412b
32	4225	52.2	-15 31	9.4	10.4	Ko	2	2, 2	40580b	82	4117	52.6	- 8 25	9.1	9.6	F8	3	..	41242b
33	12601	52.2	-24 3	10.9	10.7	Go	2	..	40284b	83	4302	52.6	-13 59	4.68	4.51	B3p	..	R	56,93
34	11299	52.2	-32 34	10.0	10.4	Go	2	..	39928b	84	4226	52.6	-15 11	8.01	8.07	A2	7	..	40580b
35	10543	52.2	-44 17	10.1	10.2	Ko	2	..	37577b	85	4188	52.6	-16 39	10.3	10.4	A5	1	..	40300b
36	10364	52.2	-45 22	9.2	9.9	F8	4	..	37577b	86	4209	52.6	-18 11	9.4	9.5	A2	1	..	40300b
37	9137	52.2	-52 41	9.1	9.1	Ao	3	..	19894b	87	4208	52.6	-18 20	10.1	10.9	G5	1	..	37760b
38	6913	52.2	-53 45	9.5	9.5	A	1	..	19894b	88	4368	52.6	-20 36	7.24	7.2	A2	8	..	40300b
39	6914	52.2	-54 0	10.0	10.0	Ao	2	..	19894b	89	4366	52.6	-21 7	9.2	8.9	F2	3	..	40300b
40	7439	52.2	-57 26	10.5	10.5	Ao	1	..	37619b	90	12427	52.6	-24 32	5.41	5.36	B8	..	3, 7	56,93
41	3765	52.2	-63 30	var.	var.	G5	9	R	21769b	91	11224	52.6	-25 11	9.05	9.1	Ko	3	..	40284b
42	2799	52.3	+31 30	8.1	9.5	Ma	3	..	38719i	92	12434	52.6	-31 46	8.5	8.6	Fo	4	..	40085b
43	4185	52.3	-16 48	7.9	8.3	F5	7	..	40300b	93	11302	52.6	-32 20	9.5	10.4	K5	1	..	39928b
44	12138	52.3	-29 11	10.6	10.1	Ao	1	..	40085b	94	10783	52.6	-38 27	7.32	7.0	Fo	3	..	43284b
45	10778	52.3	-38 42	8.2	8.1	Go	7	..	14367b	95	10442	52.6	-43 17	9.2	9.7	B9	3	..	21781b
46	10219	52.3	-49 19	9.5	9.6	B5	2	..	42502b	96	9684	52.6	-52 3	9.1	8.7	B8	5	..	19894b
47	9678	52.3	-51 26	9.2	8.4	Ao	5	..	19894b	97	6568	52.6	-58 7	9.2	9.2	B8	3	..	37619b
48	6916	52.3	-53 33	8.5	8.5	G5	5	..	19894b	98	6526	52.6	-59 27	9.2	9.5	Fo	3	..	37619b
49	2481	52.3	-69 37	9.3	9.4	A2	3	..	14146b	99	5463	52.6	-62 1	9.2	8.6	Ao	6	..	21769b
50	1131	52.3	-77 0	9.5	9.5	Ao	3	..	40252b	100	3198	52.6	-65 26	9.4	9.4	B9	4	..	21785b

## THE HENRY DRAPER CATALOGUE.

143000

15<sup>h</sup> 52<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	822	52.7	+69 51	8.99	9.49	F8	1	..	37752i	51	11309	53.0	-32 43	7.11	7.5	B9	8	..	40279b
2	2495	52.7	+28 10	10.8	11.4	Go	2	..	5402m	52	10791	53.0	-38 16	9.2	9.3	Go	4	..	37631b
3	2938	52.7	+17 28	8.1	8.7	Go	3	..	37751i	53	10553	53.0	-44 16	10.3	9.9	Ao	2	..	37577b
4	4080	52.7	- 2 53	8.9	9.0	A2	2	..	41188b	54	10056	53.0	-50 34	9.2	9.3	B9	2	..	19894b
5	4189	52.7	-17 7	9.4	9.7	Fo	4	..	4030ob	55	10057	53.0	-50 49	8.7	7.7	Fo	6	..	19894b
6	4059	52.7	-22 40	10.3	10.7	G5	1	..	40284b	56	9696	53.0	-51 58	9.5	9.0	K2	2	..	19894b
7	12605	52.7	-23 36	9.4	8.9	G5	4	..	40284b	57	5468	53.0	-61 5	9.5	9.5	B9	3	..	21769b
8	10559	52.7	-36 54	9.8	10.0	A2	3	..	14367b	58	3772	53.0	-63 29	8.6	9.1	F8	4	..	21769b
9	10478	52.7	-41 27	5.07	6.7	G5	..	0.7	28,21i	59	2872	53.0	-66 50	9.6	9.6	Ao	4	..	21785b
10	10550	52.7	-44 39	10.3	9.9	Ao	3	..	37577b	60	2601	53.0	-68 6	9.4	9.4	Ao	2	..	21785b
11	10228	52.7	-49 57	10.3	9.6	Ao	1	..	42502b	61	1549	53.1	+61 50	9.6	10.4	G5	2	..	37746i
12	7453	52.7	-57 19	8.3	9.5	Ko	3	..	37619b	62	2749	53.1	+35 47	8.9	9.9	Ko	2	E	38719i
13	3199	52.7	-65 12	8.9	9.9	Ko	3	..	21785b	63	2557	53.1	+27 38	10.3	11.3	Ko	1	..	5402m
14	2483	52.7	-69 53	10.2	10.3	A2	1	..	14146b	64	2851	53.1	+16 22	8.5	9.7	K5	1	..	37751i
15	1945	52.7	-71 43	9.0	10.0	Ko	2	..	14146b	65	2933	53.1	+10 16	9.0	9.4	F5	4	..	13817b
16	4461	52.8	-17 28	8.7	9.3	Go	5	..	4030ob	66	4119	53.1	- 8 43	8.6	9.0	F5	4	..	41242b
17	4239	52.8	-21 51	10.3	10.7	Ko	1	..	40284b	67	4370	53.1	-20 44	8.7	8.4	A3	5	..	4030ob
18	11228	52.8	-25 50	3.00	2.81	B2	..	R	28,21i	68	12435	53.1	-24 33	10.6	10.0	G5	1	..	40284b
19	11133	52.8	-26 40	10.4	9.4	Ko	1	..	40085b	69	11137	53.1	-26 17	8.5	8.2	A2	7	..	40284b
20	10628	52.8	-37 14	8.6	8.4	F5	7	..	14367b	70	12718	53.1	-30 12	8.53	8.6	F5	5	..	40085b
21	10789	52.8	-38 32	10.4	10.1	G5	3	..	37631b	71	10565	53.1	-36 12	10.6	10.8	G5	2	..	37631b
22	10112	52.8	-40 34	8.4	8.3	Ao	8	..	21781b	72	10631	53.1	-37 26	8.9	10.2	G5	3	..	14367b
23	10370	52.8	-46 0	7.5	7.8	B9	7	..	42502b	73	10554	53.1	-44 42	9.3	9.6	F2	4	..	37577b
24	9150	52.8	-52 50	9.1	9.4	F2	2	..	19894b	74	3773	53.1	-63 58	9.2	9.6	F5	4	..	21769b
25	9149	52.8	-53 3	8.3	8.4	B9	4	..	19894b	75	3347	53.1	-64 12	8.6	9.1	F8	4	..	21769b
26	6531	52.8	-59 5	9.0	9.2	Ao	4	..	37619b	76	..	53.1	-76 42	..	..	Ro	..	R	M
27	6283	52.8	-60 15	9.8	9.8	B8	2	..	37619b	77	698	53.2	+73 36	8.0	8.8	G5	2	..	37752i
28	3346	52.8	-64 7	7.5	7.5	B8	9	..	21769b	78	1844	53.2	+56 6	8.8	10.0	K5	2	..	38767i
29	2871	52.8	-67 2	9.2	9.7	F8	3	..	21785b	79	2130	53.2	+46 14	8.8	9.2	F5	2	..	37730i
30	2149	52.8	-70 12	9.4	9.5	A2	3	..	14146b	80	4324	53.2	- 6 25	7.9	8.9	Ko	4	..	41188b
31	1780	52.9	+54 19	8.2	9.2	Ko	3	..	38736i	81	4150	53.2	- 7 41	9.4	10.2	G5	1	..	41242b
32	2932	52.9	+10 22	9.0	10.0	Ko	2	..	13817b	82	4191	53.2	-16 34	10.6	10.7	A5	2	..	37760b
33	4305	52.9	-13 9	7.22	8.29	K2	6	..	40580b	83	10846	53.2	-33 20	10.0	11.2	K2	1	..	39928b
34	4323	52.9	-14 57	8.9	9.5	Go	4	..	40580b	84	10113	53.2	-40 22	6.28	7.5	Ko	9	..	21781b
35	11229	52.9	-26 3	11.1	10.0	G5	1	..	40085b	85	10556	53.2	-44 50	var.	var.	Fo	4	R	37577b
36	9695	52.9	-51 40	9.3	8.7	F2	5	..	19894b	86	6916	53.2	-55 20	8.3	8.9	Ko	3	..	37619b
37	9154	52.9	-52 29	9.5	9.6	A2	1	..	19894b	87	7462	53.2	-57 5	10.0	10.0	Ao	1	..	37619b
38	7457	52.9	-57 6	9.7	9.7	B8	2	..	37619b	88	2873	53.2	-66 5	8.8	9.3	F8	5	..	21785b
39	5104	52.9	-62 44	9.2	9.3	A2	4	..	21769b	89	2727	53.3	+30 21	9.5	10.3	G5	5	..	5402m
40	1947	52.9	-71 44	8.5	8.5	B9	7	..	14146b	90	2726	53.3	+30 3	9.9	10.9	Ko	3	..	5402m
41	1948	52.9	-71 52	8.6	8.6	Ao	5	..	14146b	91	2497	53.3	+28 36	10.3	10.9	Go	2	..	5402m
42	1897	52.9	-72 49	9.3	10.3	Ko	1	..	14146b	92	3042	53.3	+19 40	8.7	9.7	Ko	2	..	37751i
43	4206	53.0	- 5 12	9.20	9.76	Go	2	..	41242b	93	4274	53.3	-19 39	8.9	8.9	A3	3	..	4030ob
44	4149	53.0	- 7 23	8.9	9.0	A3	4	..	41242b	94	4275	53.3	-19 39	8.8	8.3	A3	4	..	4030ob
45	4190	53.0	-16 56	11.0	11.8	G5	2	..	37760b	95	11139	53.3	-26 26	10.6	9.2	F8	2	..	40085b
46	4463	53.0	-17 10	10.6	11.6	Ko	2	..	37760b	96	12155	53.3	-30 2	9.63	10.1	Ko	1	..	40085b
47	4462	53.0	-17 16	10.3	11.1	G5	2	..	37760b	97	10651	53.3	-34 19	9.2	10.2	Ko	1	..	39928b
48	4273	53.0	-19 15	8.5	10.1	Ko	2	..	4030ob	98	10640	53.3	-35 33	7.56	8.1	Go	8	..	40279b
49	12433	53.0	-24 11	10.6	9.7	Ko	1	..	40284b	99	10794	53.3	-38 7	9.6	9.2	F5	4	..	37631b
50	12150	53.0	-29 41	9.5	8.6	F5	4	..	40085b	100	10503	53.3	-46 33	10.6	10.5	Ao	1	..	42502b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

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15<sup>h</sup> 53<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6922	53.3	-54 17	6.38	7.1	A3	8	..	3900b	51	10967	53.6	-42 32	9.9	9.5	Ao	3	..	21781b
2	7172	53.3	-56 24	8.2	8.5	Go	7	..	37619b	52	10505	53.6	-46 43	9.5	11.1	Mb	..	..	M
3	6293	53.3	-60 32	8.7	8.7	B9	6	0.5	37619b	53	10490	53.6	-48 17	7.9	8.7	B9	5	..	42502b
4	2875	53.3	-66 16	9.5	9.3	B2	4	..	21785b	54	7176	53.6	-56 31	9.1	9.2	B9	3	R	37619b
5	825	53.4	+69 0	6.82	7.24	F5	6	0.7	37752i	55	6578	53.6	-59 0	9.8	9.8	B9	2	..	37619b
6	2649	53.4	+41 52	8.8	9.8	K	1	..	37730i	56	3776	53.6	-63 36	8.2	8.1	B5	8	..	21769b
7	2558	53.4	+27 10	4.22	5.22	Ko	..	0, R	1999c	57	2484	53.6	-69 33	8.5	8.6	A2	6	..	14146b
8	2971	53.4	+14 49	8.14	8.48	F2	4	..	38754i	58	1899	53.6	-72 18	8.9	9.2	F2	5	..	14146b
9	3061	53.4	+7 29	9.1	9.9	G5	2	..	13817b	59	1898	53.6	-72 53	9.1	10.1	Ko	1	..	14146b
10	3438	53.4	+0 52	8.87	9.01	A5	3	..	13412b	60	1790	53.7	+55 14	8.3	9.3	Ko	5	..	38767i
11	4384	53.4	-12 53	8.6	9.7	K2	3	..	40580b	61	2758	53.7	+26 2	9.56	10.63	K2	2	..	5402m
12	11140	53.4	-26 43	7.07	8.5	G5	8	..	40085b	62	3037	53.7	+13 7	7.9	8.9	Ko	3	..	38754i
13	11755	53.4	-28 42	9.5	8.8	A2	4	..	40085b	63	4465	53.7	-17 58	9.7	10.0	Fo	3	..	37760b
14	12160	53.4	-29 20	7.22	7.7	Go	6	..	40085b	64	12614	53.7	-23 40	10.6	10.4	G5	2	..	40284b
15	12159	53.4	-29 47	7.14	7.9	A2	7	..	40085b	65	12445	53.7	-31 8	9.1	9.9	Ko	2	..	40085b
16	10644	53.4	-36 0	10.4	10.2	G5	3	..	37631b	66	10575	53.7	-36 13	9.5	9.3	A5	4	..	14367b
17	10570	53.4	-36 57	9.5	9.9	F8	3	..	14367b	67	10508	53.7	-46 53	10.1	10.2	A2	2	..	42502b
18	10797	53.4	-38 6	3.61	3.44	B3	..	R	28,211	68	6929	53.7	-54 36	9.2	9.7	Ko	2	..	21734b
19	10452	53.4	-43 32	7.2	8.5	Ko	8	5.2	21781b	69	6545	53.7	-59 51	9.3	9.3	B9	4	..	37619b
20	10373	53.4	-45 9	7.68	8.1	G5	5	..	20092b	70	5113	53.7	-62 26	8.3	8.3	B8	7	..	21769b
21	10062	53.4	-50 7	9.86	9.4	Ao	1	..	19894b	71	1949	53.7	-71 21	9.5	10.0	F8	1	..	14146b
22	9162	53.4	-52 28	9.0	9.0	B8	2	..	19894b	72	1950	53.7	-71 37	8.5	9.5	Ko	3	..	14146b
23	6294	53.4	-60 13	9.18	9.2	B8	4	1.3	37619b	73	453	53.8	+83 15	7.32	7.38	A2	7	..	37813i
24	3350	53.4	-64 49	9.7	9.7	Ao	2	..	21785b	74	2647	53.8	+32 42	8.9	9.5	Go	5	..	38719i
25	3349	53.4	-64 55	8.9	9.9	Ko	2	..	21785b	75	2501	53.8	+27 53	10.1	10.7	Go	2	..	5402m
26	2602	53.4	-68 4	9.2	10.2	Ko	1	..	21785b	76	3123	53.8	+9 11	8.6	9.7	K2	2	..	13817b
27	2150	53.4	-70 42	9.3	10.3	Ko	2	..	14146b	77	4124	53.8	-8 25	9.4	10.0	Go	3	..	41242b
28	2756	53.5	+26 24	9.76	10.32	Go	2	..	5402m	78	4123	53.8	-8 28	8.7	9.3	Go	4	..	41242b
29	3117	53.5	+5 2	7.06	8.06	Ko	9	..	13817b	79	4216	53.8	-10 40	8.1	9.1	Ko	4	..	40580b
30	4121	53.5	-8 12	9.2	10.0	G5	2	..	41242b	80	4063	53.8	-22 24	9.4	9.5	Ko	3	..	40284b
31	4228	53.5	-15 56	8.1	8.5	F5	7	..	40300b	81	10800	53.8	-38 42	7.18	7.3	Ao	3	..	43284b
32	4061	53.5	-22 47	10.3	11.5	K	1	..	40284b	82	10483	53.8	-42 2	10.6	11.2	Ko	1	..	23764b
33	12439	53.5	-24 49	9.4	8.8	Ao	4	..	40284b	83	6947	53.8	-53 51	8.1	10.0	K2	2	..	21734b
34	11319	53.5	-32 22	8.2	9.3	Ko	4	..	40279b	84	6932	53.8	-55 43	8.5	8.8	B5	4	..	37619b
35	10572	53.5	-36 29	10.4	10.4	Go	2	..	37631b	85	3204	53.8	-65 22	9.1	9.4	F2	3	..	21785b
36	10635	53.5	-37 55	10.6	10.8	Ko	2	..	37631b	86	1439	53.9	+62 27	9.2	9.8	Go	2	..	37746i
37	10374	53.5	-45 38	8.0	8.7	F8	5	..	42502b	87	1691	53.9	+59 12	6.17	6.15	B9	8	0.9	38767i
38	10489	53.5	-47 36	8.5	9.9	G5	2	..	42502b	88	1620	53.9	+57 35	8.8	9.3	F8	4	..	38767i
39	10489	53.5	-48 12	9.7	9.9	B9	1	..	42502b	89	2435	53.9	+49 18	9.0	10.1	K2	1	..	38766i
40	9164	53.5	-52 29	8.7	9.1	F5	1	..	19894b	90	4387	53.9	-12 43	9.9	10.3	F5	2	..	40580b
41	5109	53.5	-62 36	8.6	8.7	A3	5	..	21769b	91	4375	53.9	-20 41	9.7	10.4	F5	2	..	37760b
42	2499	53.6	+28 50	10.8	11.4	Go	3	..	5402m	92	4065	53.9	-22 17	9.4	8.9	A2	3	..	40284b
43	3174	53.6	+20 20	9.5	9.6	A3	2	..	37751i	93	12443	53.9	-24 16	10.9	9.5	A2	2	..	40284b
44	4085	53.6	-2 48	8.0	8.6	Go	5	..	41188b	94	10698	53.9	-27 15	9.9	9.5	F8	2	..	40085b
45	4193	53.6	-17 0	8.7	9.7	Ko	4	..	40300b	95	12164	53.9	-29 42	9.4	8.9	A2	4	..	40085b
46	12612	53.6	-23 54	8.1	7.7	Go	6	..	40284b	96	12727	53.9	-30 23	9.7	9.5	Go	3	..	40085b
47	12723	53.6	-30 52	6.67	7.0	G5	8	..	40085b	97	10855	53.9	-33 19	8.3	10.1	Ko	2	..	40279b
48	12442	53.6	-31 33	7.45	7.5	Fo	8	..	40085b	98	10579	53.9	-36 11	10.4	10.2	F8	2	..	37631b
49	10848	53.6	-33 6	6.96	7.5	Ao	8	..	40279b	99	10968	53.9	-42 45	11.0	10.7	A3	2	..	23764b
50	10573	53.6	-36 59	9.3	10.4	Ko	2	..	37631b	100	10563	53.9	-44 59	9.48	9.9	F8	3	..	37577b

## THE HENRY DRAPER CATALOGUE.

143200

15<sup>h</sup> 53<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6302	53.9	-60 36	9.1	10.1	Ko	1	..	37619b	51	1688	54.2	-73 38	8.6	9.6	Ko	3	..	14146b
2	3205	53.9	-65 28	10.1	10.1	Ao	1	..	21785b	52	611	54.3	+77 34	8.2	8.8	Go	3	..	37809i
3	2877	53.9	-66 20	8.4	8.5	A2	7	..	21785b	53	925	54.3	+66 51	9.4	9.5	A5	2	..	37746i
4	3011	53.9	-67 57	9.0	10.0	Ko	1	..	21785b	54	2655	54.3	+42 31	8.8	10.0	K5	2	..	37730i
5	2604	53.9	-68 51	9.4	9.4	Ao	3	..	21785b	55	2745	54.3	+29 51	9.41	10.41	Ko	4	..	5402m
6	1511	53.9	-74 19	8.7	9.8	K2	3	..	14146b	56	2761	54.3	+26 13	9.76	10.76	Ko	2	..	5402m
7	446	53.9	-85 9	8.7	8.7	Ao	4	..	13458b	57	2855	54.3	+16 31	8.0	9.1	K2	3	..	37751i
8	2653	54.0	+41 57	8.9	9.3	F5	2	..	37730i	58	3124	54.3	+9 48	9.5	10.0	F8	2	..	13817b
9	2948	54.0	+39 58	6.44	7.44	Ko	6	0,7	38718i	59	4330	54.3	-7 1	6.64	6.64	Ao	4	..	41735b
10	2649	54.0	+32 10	9.2	10.2	Ko	1	..	38719i	60	12460	54.3	-31 18	9.7	10.4	K5	1	..	39928b
11	2760	54.0	+26 32	9.69	10.47	G5	2	..	5402m	61	10277	54.3	-39 14	9.8	10.1	G5	2	..	14367b
12	3132	54.0	+5 56	9.1	9.4	Fo	4	..	13817b	62	10566	54.3	-44 48	9.1	9.9	B9	2	..	37577b
13	3151	54.0	+0 52	7.49	7.49	Ao	9	..	13412b	63	10515	54.3	-46 32	9.5	9.6	Ao	2	..	42502b
14	12452	54.0	-31 10	10.2	10.1	Fo	1	..	40085b	64	10069	54.3	-50 40	9.0	9.3	K5	1	..	19894b
15	10650	54.0	-35 48	7.8	8.4	F8	7	..	40279b	65	1277	54.3	-75 58	7.8	8.9	K2	6	..	11726b
16	10275	54.0	-39 36	9.0	9.8	Ao	4	..	14367b	66	891	54.3	-79 53	9.0	9.4	F5	1	..	40252b
17	10118	54.0	-40 44	9.2	9.5	Ao	4	..	21781b	67	1791	54.4	+55 16	9.2	9.8	Go	1	..	38767i
18	6938	54.0	-54 33	9.9	9.7	B2	2	..	21734b	68	2746	54.4	+29 39	10.1	10.7	Go	3	..	5402m
19	7476	54.0	-57 17	9.2	9.2	B8	3	..	37619b	69	2747	54.4	+29 33	10.8	11.4	Go	2	..	5402m
20	6305	54.0	-60 6	10.0	10.0	Ao	1	..	37619b	70	2564	54.4	+27 27	9.5	10.3	G5	3	..	5402m
21	5120	54.0	-62 50	7.4	8.6	K5	5	..	21769b	71	2563	54.4	+27 9	8.8	9.9	K2	2	..	38719i
22	2654	54.1	+41 57	8.9	9.2	F2	3	..	37730i	72	2762	54.4	+26 49	8.6	9.6	Ko	3	..	38719i
23	2502	54.1	+28 34	10.1	11.3	K5	2	..	5402m	73	3041	54.4	+13 26	8.9	9.2	Fo	3	..	38754i
24	3117	54.1	+8 51	8.9	9.9	Ko	2	..	13817b	74	4155	54.4	-7 9	10.1	10.9	G5	2	..	41229b
25	4217	54.1	-10 59	9.2	10.0	G5	2	..	40580b	75	4068	54.4	-22 20	2.54	2.30	Bo	..	R	28,211
26	4324	54.1	-14 20	10.6	10.7	A5	1	..	40589b	76	12620	54.4	-23 26	10.9	10.1	F5	2	..	40284b
27	4376	54.1	-20 31	10.6	10.4	Go	1	..	37760b	77	11146	54.4	-26 22	9.2	9.1	K2	3	..	40284b
28	4245	54.1	-21 10	10.3	11.5	Ko	1	..	37760b	78	10653	54.4	-35 42	8.12	8.8	Ko	5	..	40279b
29	4066	54.1	-22 55	8.7	8.9	Fo	5	..	40284b	79	10805	54.4	-38 10	9.6	10.1	G5	3	..	37631b
30	11243	54.1	-25 16	10.6	10.0	K2	1	..	40316b	80	10280	54.4	-39 25	9.0	9.2	Go	6	..	14367b
31	11242	54.1	-25 53	8.9	8.8	F5	4	..	40284b	81	10568	54.4	-44 13	9.9	10.5	Fo	2	..	37577b
32	10803	54.1	-38 48	6.71	7.1	Fo	4	..	43284b	82	10516	54.4	-46 53	9.2	10.5	Ko	1	..	42502b
33	10970	54.1	-43 0	10.3	11.0	Ko	2	..	23764b	83	9175	54.4	-52 15	8.8	8.8	Ao	3	..	19894b
34	10378	54.1	-45 4	8.82	8.7	B9	8	..	37577b	84	6970	54.4	-53 5	8.8	9.5	Ko	2	..	19894b
35	10512	54.1	-46 15	7.5	8.2	F8	6	..	42502b	85	6967	54.4	-53 26	9.7	9.7	Ao	2	..	19894b
36	6953	54.1	-53 18	9.0	9.1	B9	4	..	19894b	86	6554	54.4	-59 44	8.8	9.3	F8	3	..	37619b
37	6309	54.1	-60 24	9.7	9.8	A2	2	..	37619b	87	6555	54.4	-60 3	6.8	8.7	B8	6	0,6 R	37619b
38	5122	54.1	-62 15	6.36	6.36	Ao	9	..	36336b	88	6317	54.4	-60 10	8.9	8.9	B8	5	..	37619b
39	1687	54.1	-73 8	9.0	10.0	Ko	1	..	14146b	89	3778	54.4	-63 5	7.9	8.4	F8	7	..	21769b
40	2524	54.2	+44 25	8.37	9.37	Ko	3	..	37730i	90	2657	54.5	+42 20	9.6	10.4	G5	2	R	37730i
41	2654	54.2	+33 20	9.5	10.0	F8	1	..	38719i	91	2503	54.5	+28 1	8.1	9.1	Ko	6	..	38719i
42	2924	54.2	+12 34	8.5	8.6	A5	3	..	38754i	92	3095	54.5	+18 36	7.60	8.10	F8	5	..	37751i
43	4277	54.2	-19 50	10.1	11.5	K2	1	..	37760b	93	2857	54.5	+16 2	8.9	9.5	Go	2	..	37751i
44	4276	54.2	-20 8	9.13	10.1	Ko	2	..	40300b	94	3092	54.5	+4 3	9.1	9.2	A2	3	..	17083b
45	4377	54.2	-20 25	10.1	10.4	F8	2	..	37760b	95	4017	54.5	-4 48	8.5	9.6	K2	3	2,2	41533b
46	11143	54.2	-27 4	9.7	8.8	A5	4	..	40085b	96	4210	54.5	-5 51	7.42	8.42	Ko	5	..	41188b
47	12458	54.2	-31 49	8.9	8.3	A2	7	..	40279b	97	4331	54.5	-6 44	7.7	8.8	K2	4	..	41242b
48	10120	54.2	-40 9	6.50	7.0	Ao	6	..	43284b	98	4157	54.5	-7 36	8.9	9.5	Go	4	..	41242b
49	5489	54.2	-61 41	9.5	9.5	Ao	2	..	21769b	99	4328	54.5	-14 23	10.1	10.9	G5	1	..	40589b
50	1900	54.2	-72 34	8.1	8.2	A2	7	..	14146b	100	4229	54.5	-15 53	9.4	9.5	A2	4	0,3	37760b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

143300

15<sup>h</sup> 54<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4247	54.5	-21 13	9.7	11.5	Ma	1	..	37760b	51	2566	54.8	+27 24	10.1	10.9	G5	1	..	5402m
2	10125	54.5	-40 49	8.9	10.1	Ko	2	..	21781b	52	2763	54.8	+26 26	9.19	9.53	F2	4	..	5402m
3	10973	54.5	-42 24	10.3	10.7	Ko	3	..	23764b	53	3046	54.8	+19 44	9.00	9.56	Go	2	..	37751i
4	10258	54.5	-49 40	8.3	8.1	B5	6	..	19894b	54	3096	54.8	+17 53	9.0	9.3	F	1	..	38754i
5	10073	54.5	-51 1	10.1	9.4	B9	1	..	19894b	55	4333	54.8	-6 34	8.9	9.9	Ko	3	..	41242b
6	7198	54.5	-56 34	6.8	7.6	F8	10	..	37619b	56	4391	54.8	-12 50	8.6	8.7	A5	6	..	40580b
7	7201	54.5	-56 53	9.7	9.7	Ao	2	..	37619b	57	4249	54.8	-21 58	9.7	10.7	Ko	2	..	40284b
8	7200	54.5	-56 56	9.0	10.0	K2	1	..	37619b	58	11338	54.8	-32 38	9.6	10.1	Go	2	..	40279b
9	6557	54.5	-60 3	9.2	9.2	B8	3	R	37619b	59	10589	54.8	-36 41	10.4	10.2	A2	3	..	37631b
10	6318	54.5	-60 51	10.0	10.1	A2	1	..	37619b	60	10975	54.8	-42 48	10.1	9.8	A3	5	..	23764b
11	3206	54.5	-66 2	9.0	10.1	K2	2	..	21785b	61	10569	54.8	-44 9	9.9	9.6	G5	6	..	23764b
12	2693	54.6	+37 30	8.1	8.9	G5	3	..	38718i	62	10518	54.8	-46 37	8.4	9.0	Go	4	..	42502b
13	3003	54.6	+25 52	8.36	9.54	K5	1	E	38774i	63	2608	54.8	-68 40	9.9	10.0	A2	2	..	21785b
14	2905	54.6	+22 5	8.7	9.7	K	1	..	37751i	64	2486	54.8	-69 46	8.4	9.4	Ko	3	..	14146b
15	2906	54.6	+22 5	8.7	8.8	A2	4	..	37751i	65	2154	54.8	-70 49	9.3	9.4	A2	5	..	14146b
16	3125	54.6	+9 12	9.1	9.9	G5	2	..	13817b	66	1278	54.8	-75 51	8.6	9.6	Ko	2	..	11726b
17	3109	54.6	+3 44	9.3	9.9	Go	1	..	17083b	67	2346	54.9	+47 59	8.2	9.3	K2	1	..	38766i
18	11150	54.6	-26 6	9.9	8.9	Go	2	..	40284b	68	2526	54.9	+44 20	8.6	9.2	Go	4	..	37730i
19	10460	54.6	-43 52	8.6	9.9	K2	5	..	23764b	69	2567	54.9	+27 19	9.5	10.1	Go	3	..	5402m
20	10383	54.6	-45 59	9.1	9.4	Ao	3	..	42502b	70	2907	54.9	+22 46	8.3	9.1	G5	2	..	37751i
21	10074	54.6	-50 50	6.75	7.0	B8	6	..	10093b	71	3044	54.9	+13 44	8.6	8.9	Fo	3	..	38754i
22	7487	54.6	-57 33	9.7	9.7	B9	1	..	37619b	72	3853	54.9	-3 33	9.1	10.1	Ko	2	..	41533b
23	7491	54.6	-57 50	9.1	9.4	B8	3	..	37619b	73	4311	54.9	-13 10	9.2	9.2	Ao	4	..	40580b
24	3353	54.6	-64 11	7.8	8.8	Ko	7	..	21769b	74	4197	54.9	-16 22	9.1	10.3	K5	2	..	37760b
25	2152	54.6	-70 23	9.2	10.0	G5	1	..	14146b	75	4467	54.9	-17 23	10.3	10.9	Go	2	..	37760b
26	1135	54.6	-77 0	7.2	7.2	B9	7	..	40252b	76	12455	54.9	-24 31	8.9	8.6	A3	5	..	40284b
27	2545	54.7	+43 12	9.4	10.0	G	1	..	37730i	77	11153	54.9	-26 56	9.9	8.6	A3	4	..	40085b
28	2715	54.7	+38 6	7.25	7.59	F2	8	..	38718i	78	10707	54.9	-27 41	9.4	8.6	A2	4	..	40085b
29	2565	54.7	+26 58	9.36	10.14	G5	4	..	5402m	79	12740	54.9	-30 17	9.5	9.2	F8	5	..	40085b
30	2935	54.7	+10 46	8.5	9.1	Go	2	..	38754i	80	10649	54.9	-37 56	9.2	10.0	Ko	3	..	14367b
31	3068	54.7	+7 0	8.6	8.9	Fo	3	..	13817b	81	10812	54.9	-38 21	10.9	10.1	Fo	2	..	37631b
32	4332	54.7	-6 50	8.3	8.8	F8	7	..	41242b	82	10815	54.9	-38 30	10.9	10.4	Ko	1	..	37631b
33	4196	54.7	-16 14	5.53	6.03	F8	10	..	40300b	83	10262	54.9	-49 41	9.9	9.6	B9	2	..	42502b
34	4282	54.7	-19 36	10.1	11.2	Ko	2	..	37760b	84	6958	54.9	-54 45	10.5	10.5	B9	2	..	21734b
35	4379	54.7	-20 10	9.18	9.3	F2	3	..	40300b	85	6594	54.9	-58 21	9.5	9.5	B9	2	..	37619b
36	12467	54.7	-32 1	11.4	11.2	F8	3	..	40279b	86	6593	54.9	-58 52	9.0	8.9	Ao	5	..	37619b
37	11336	54.7	-32 23	8.3	8.3	Go	6	..	40279b	87	6591	54.9	-58 59	10.0	10.1	A2	1	..	37619b
38	10384	54.7	-45 18	9.9	10.7	Ko	2	..	37577b	88	6334	54.9	-60 6	9.3	9.3	B8	3	..	37619b
39	6560	54.7	-59 6	9.1	10.3	K5	1	..	37619b	89	1137	54.9	-76 58	7.1	8.1	Ko	5	..	40252b
40	6326	54.7	-60 7	8.88	8.0	A	7	R	37619b	90	1088	54.9	-78 19	9.2	9.2	Ao	4	..	40252b
41	6324	54.7	-60 44	9.3	9.3	Ao	3	..	21769b	91	1087	54.9	-78 45	8.6	9.7	K2	3	..	40252b
42	3780	54.7	-63 32	9.1	9.1	B9	4	..	21769b	92	2936	55.0	+39 32	9.1	9.6	F8	3	..	38718i
43	3208	54.7	-65 23	9.7	9.7	B8	1	..	21785b	93	2748	55.0	+29 44	7.21	8.21	Ko	8	..	38719i
44	2607	54.7	-68 44	9.5	9.5	Ao	2	..	21785b	94	2973	55.0	+14 28	8.9	10.0	K2	1	..	38754i
45	2153	54.7	-70 34	10.2	10.3	A2	1	..	14146b	95	3154	55.0	+0 54	7.54	8.72	K5	4	..	17083b
46	1902	54.7	-72 7	5.71	7.3	Ko	..	..	56,137	96	4020	55.0	-4 48	8.3	8.3	Ao	5	..	41188b
47	2672	54.8	+36 18	var.	var.	Mb	..	R	M	97	4159	55.0	-7 32	8.1	8.4	Fo	7	..	41242b
48	2716	54.8	+34 29	8.7	9.8	K2	3	..	38719i	98	4158	55.0	-7 55	8.7	8.8	A2	6	..	41242b
49	2730	54.8	+30 17	7.61	8.79	K5	6	..	38719i	99	4468	55.0	-17 13	9.7	10.7	Ko	4	..	37760b
50	2731	54.8	+30 4	9.5	10.3	G5	5	..	5402m	100	12629	55.0	-23 20	10.4	9.5	F5	3	..	40284b



## THE HENRY DRAPER CATALOGUE.

143400

15<sup>h</sup> 55<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11154	55.0	-26 45	8.0	7.9	F2	7	..	40085b	51	1089	55.2	-78 15	9.4	9.4	Ao	3	..	40252b
2	10709	55.0	-28 3	9.1	9.2	K2	2	..	40085b	52	2441	55.3	+49 27	8.8	9.9	K2	3	..	38766i
3	11789	55.0	-28 43	9.9	9.2	Ao	2	..	40085b	53	2733	55.3	+30 40	8.7	9.0	Fo	5	..	38719i
4	12470	55.0	-31 36	6.40	7.7	Ko	9	..	40279b	54	2765	55.3	+26 13	Nov.	Nov.	Pec.	..	R	M
5	10816	55.0	-38 9	9.2	9.2	A5	5	..	14367b	55	3009	55.3	+25 43	7.96	9.03	K2	1	..	38470i
6	10131	55.0	-40 14	9.8	9.8	F8	3	..	21781b	56	2946	55.3	+17 40	8.5	8.5	Ao	5	..	37751i
7	10465	55.0	-43 37	11.0	10.8	A2	2	..	23764b	57	3128	55.3	+8 54	9.0	9.8	G5	1	..	13817b
8	6978	55.0	-53 8	8.5	8.6	B8	5	..	19894b	58	4213	55.3	-5 22	8.5	9.5	Ko	2	..	41188b
9	6961	55.0	-54 11	10.0	10.0	Ao	2	0,2	19344b	59	4162	55.3	-8 7	5.55	5.55	Ao	..	1,9	56,93
10	7207	55.0	-56 8	8.5	7.6	Ao	7	..	37619b	60	4214	55.3	-19 1	9.1	9.9	G5	2	..	37760b
11	6595	55.0	-58 33	9.8	9.8	Ao	1	..	37619b	61	12633	55.3	-23 45	9.7	9.0	Fo	4	..	40284b
12	6563	55.0	-60 3	9.2	9.2	B8	2	..	37619b	62	10688	55.3	-34 20	7.66	9.3	K5	4	..	40279b
13	6338	55.0	-60 12	8.38	8.6	B8	4	..	37619b	63	10980	55.3	-42 24	7.17	7.5	F5	3	..	43284b
14	5141	55.0	-62 24	..	9.2	Ob	..	..	76,29	64	10577	55.3	-44 23	10.6	10.4	Go	2	..	23764b
15	3209	55.0	-66 0	9.9	10.2	F2	1	..	21785b	65	6353	55.3	-60 26	8.9	8.3	Fo	7	..	21769b
16	470	55.1	+82 40	8.4	8.7	Fo	4	..	37813i	66	1793	55.4	+55 2	4.96	5.10	A5	..	5,10	56,93
17	702	55.1	+72 35	8.6	9.6	Ko	1	..	37752i	67	2282	55.4	+47 24	8.2	8.8	Go	5	..	37730i
18	2547	55.1	+43 30	8.0	8.1	A3	9	..	37730i	68	2696	55.4	+37 13	7.72	8.72	Ko	4	..	38718i
19	2654	55.1	+32 3	9.1	9.5	F5	2	..	38719i	69	3072	55.4	+7 5	8.5	9.5	Ko	4	..	13817b
20	3121	55.1	+8 42	8.9	9.3	F5	1	..	13817b	70	4329	55.4	-14 8	7.7	8.1	F5	6	0,6	40580b
21	3070	55.1	+7 13	8.7	9.0	Fo	4	..	13817b	71	4470	55.4	-17 27	9.9	10.5	Go	2	..	37760b
22	3121	55.1	+5 22	9.8	9.8	Ao	2	..	13817b	72	12458	55.4	-24 55	7.80	8.0	A2	6	..	40284b
23	4161	55.1	-7 52	9.7	10.3	Go	2	..	41242b	73	10654	55.4	-37 15	7.8	7.3	B9	9	..	14367b
24	4230	55.1	-15 8	9.06	10.06	Ko	3	..	40300b	74	7500	55.4	-57 29	4.87	4.93	A2	..	R	28,211
25	4198	55.1	-16 39	10.1	11.2	K2	1	..	37760b	75	5147	55.4	-62 41	9.3	9.3	B9	4	..	21769b
26	4285	55.1	-19 36	10.8	11.8	Ko	1	..	37760b	76	2883	55.4	-66 9	9.0	9.3	Fo	5	..	21785b
27	10710	55.1	-27 47	10.9	9.7	A2	1	..	40085b	77	2155	55.4	-70 10	9.6	9.7	A2	2	..	14146b
28	12471	55.1	-31 16	8.5	8.6	F8	5	..	40279b	78	1951	55.4	-71 17	9.0	10.0	Ko	2	..	14146b
29	9186	55.1	-52 17	9.1	9.7	Go	1	..	19344b	79	1200	55.4	-77 11	8.2	9.2	Ko	4	..	40252b
30	6564	55.1	-59 51	9.2	9.8	B9	1	..	37619b	80	2930	55.5	+11 56	8.3	8.9	Go	1	..	38754i
31	5499	55.1	-61 11	8.2	8.0	F8	8	..	21769b	81	3129	55.5	+9 40	10.5	11.1	G	1	R	13817b
32	3210	55.1	-65 15	9.5	9.6	A2	3	..	21785b	82	3857	55.5	-3 36	8.8	10.0	K5	2	..	41533b
33	1102	55.2	+64 5	9.6	10.4	G5	2	..	37746i	83	4044	55.5	-12 4	7.7	7.7	Ao	7	..	40580b
34	2353	55.2	+45 52	8.7	9.7	Ko	2	..	37730i	84	4393	55.5	-12 36	8.9	9.3	F5	3	..	40580b
35	2695	55.2	+36 55	5.71	6.89	K5	8	..	38718i	85	4286	55.5	-19 35	9.7	10.9	K5	1	..	37760b
36	3441	55.2	+0 24	8.5	9.1	Go	6	..	17083b	86	11158	55.5	-27 0	9.7	9.2	G5	2	..	40085b
37	4213	55.2	-18 41	9.1	9.7	Go	3	..	37760b	87	12753	55.5	-30 38	9.7	9.8	A3	3	..	40279b
38	4380	55.2	-20 53	7.19	8.0	Ko	7	..	40300b	88	10595	55.5	-36 27	7.12	6.9	Ao	10	..	14367b
39	4250	55.2	-21 53	8.7	9.2	Fo	5	..	40284b	89	10656	55.5	-37 48	9.6	10.9	Ko	1	..	37631b
40	12631	55.2	-23 59	7.37	8.3	K2	6	..	40284b	90	10134	55.5	-40 26	10.2	9.5	B9	4	..	21781b
41	11156	55.2	-26 35	10.4	9.1	F8	2	..	40085b	91	9194	55.5	-52 27	9.2	10.2	Ko	1	..	19344b
42	10867	55.2	-33 46	10.4	10.6	Ko	1	..	39928b	92	6966	55.5	-54 35	9.0	9.7	Ao	3	2,3	21734b
43	10866	55.2	-33 56	9.6	8.7	F5	4	..	40279b	93	3362	55.5	-64 33	9.3	9.4	A2	4	..	21769b
44	10819	55.2	-38 40	10.9	11.2	K5	1	..	37631b	94	3212	55.5	-65 34	7.8	7.8	B8	8	..	21785b
45	10268	55.2	-49 58	7.8	8.2	Ao	7	..	19894b	95	1903	55.5	-72 26	8.7	8.6	B5	4	..	14146b
46	6566	55.2	-59 49	8.8	9.8	Ko	1	..	37619b	96	532	55.6	+78 0	8.6	9.7	K2	2	..	37809i
47	6568	55.2	-59 55	9.8	9.8	B9	1	..	37619b	97	2975	55.6	+14 28	8.9	9.4	F8	3	..	38754i
48	6348	55.2	-60 13	6.97	7.8	B3p	..	R	56,137	98	3123	55.6	+8 17	8.9	10.0	K2	1	..	13817b
49	6349	55.2	-60 14	8.6	8.6	B	..	..	56,137	99	3123	55.6	+5 1	8.66	9.84	K5	1	..	13817b
50	2487	55.2	-69 19	9.1	10.3	K5	1	..	14146b	100	3156	55.6	+1 6	9.5	9.9	F5	1	..	17083b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

143500

15<sup>h</sup> 55<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3443	55.6	+ 0 37	8.5	9.1	Go	5	..	17083b	51	2865	55.9	+15 57	8.4	8.7	Fo	4	..	37751i
2	12637	55.6	-24 0	9.7	9.5	Go	3	..	40284b	52	2942	55.9	+14 56	8.89	9.67	G5	3	..	38754i
3	10874	55.6	-33 44	10.6	11.2	Go	1	..	39928b	53	3096	55.9	+ 4 42	5.90	6.90	Ko	7	..	13412b
4	10823	55.6	-38 38	10.4	9.8	Ao	2	..	37631b	54	4337	55.9	- 6 42	8.6	9.0	F5	6	..	41242b
5	10135	55.6	-40 49	10.6	10.1	F8	2	..	21781b	55	4395	55.9	-12 50	9.4	10.5	K2	1	..	40589b
6	10981	55.6	-42 51	11.0	10.1	A2	4	..	23764b	56	4334	55.9	-14 56	9.4	10.0	Go	2	0,2	40300b
7	10478	55.6	-43 14	10.6	10.8	Ao	2	..	23764b	57	4069	55.9	-22 32	9.4	9.2	A2	4	..	40284b
8	10273	55.6	-49 43	9.0	8.8	Ko	2	..	19894b	58	10721	55.9	-27 28	10.9	9.5	A5	1	..	40085b
9	10274	55.6	-49 57	10.3	9.0	Fo	2	..	42502b	59	11351	55.9	-32 33	8.4	9.3	Ko	3	..	40279b
10	10084	55.6	-51 3	9.7	9.3	B8	2	..	19344b	60	10659	55.9	-37 32	9.8	9.3	B9	4	..	14367b
11	6576	55.6	-59 56	8.40	8.6	Ao	6	..	21769b	61	10986	55.9	-42 13	8.0	9.2	Ko	7	..	23764b
12	1516	55.6	-74 33	9.0	9.6	Go	4	..	14146b	62	10088	55.9	-51 3	10.1	9.7	Ao	2	..	19344b
13	2876	55.7	+23 18	7.65	7.63	B9	5	..	37751i	63	9200	55.9	-52 43	9.0	9.0	A3	3	..	19894b
14	2908	55.7	+21 55	7.66	8.73	K2	4	..	37751i	64	3789	55.9	-63 49	8.8	9.9	K2	2	..	21769b
15	2947	55.7	+17 27	8.3	9.1	G5	1	..	37751i	65	2955	56.0	+40 23	9.9	11.0	K2	2	..	38718b
16	4232	55.7	-15 20	9.2	10.2	Ko	2	..	40300b	66	4316	56.0	-14 8	9.9	11.1	K5	1	3,1	40580b
17	4253	55.7	-21 26	9.9	10.1	A3	3	..	40284b	67	4255	56.0	-21 42	7.20	7.0	B9	8	..	40284b
18	12639	55.7	-24 2	9.1	9.5	G5	3	..	40284b	68	11353	56.0	-32 7	8.6	9.9	Ko	3	..	40279b
19	10718	55.7	-27 29	10.4	9.1	F8	2	..	40085b	69	10881	56.0	-33 22	8.6	8.7	Ao	6	..	40279b
20	11801	55.7	-28 5	9.2	8.6	Go	3	..	40085b	70	10674	56.0	-35 31	8.6	9.6	A3	3	..	40279b
21	10657	55.7	-37 11	9.2	10.5	Mb	2	..	37631b	71	10988	56.0	-42 39	10.3	10.4	F5	2	..	23764b
22	10480	55.7	-43 58	10.6	11.1	K2	1	..	23764b	72	10485	56.0	-43 9	7.58	7.6	Ao	3	..	43284b
23	10581	55.7	-44 46	10.6	10.2	Ao	3	..	23764b	73	1953	56.0	-71 4	9.0	10.0	Ko	1	..	14146b
24	7510	55.7	-57 4	10.2	10.2	A	2	..	37619b	74	3075	56.1	+ 7 7	9.3	9.7	F5	1	..	13817b
25	7508	55.7	-57 50	8.3	8.6	F8	4	..	37619b	75	4338	56.1	- 6 37	9.2	10.0	G5	3	..	41242b
26	5510	55.7	-61 28	8.6	8.9	G5	5	..	21769b	76	4226	56.1	-11 0	8.7	9.9	K5	2	3,1	40589b
27	3787	55.7	-63 22	9.1	9.2	A2	5	..	21769b	77	12641	56.1	-23 14	11.1	11.5	G5	1	..	40316b
28	3785	55.7	-63 57	9.1	9.5	F5	2	..	21769b	78	10700	56.1	-34 58	8.58	8.7	B8	5	..	40279b
29	2156	55.7	-71 0	9.4	9.4	B9	4	..	14146b	79	10289	56.1	-40 4	10.6	10.1	A2	3	..	23764b
30	1952	55.7	-71 36	8.5	8.5	Ao	7	..	14146b	80	7514	56.1	-57 26	10.5	10.5	Ao	1	..	37619b
31	1786	55.8	+54 46	8.56	9.74	K5	1	..	38767i	81	6611	56.1	-58 55	9.2	9.3	A2	3	..	37619b
32	2954	55.8	+24 34	8.21	9.28	K2	1	..	38470i	82	5160	56.1	-62 35	9.3	9.3	Ao	4	..	21769b
33	3124	55.8	+ 4 54	8.96	10.03	K2	2	..	13817b	83	2157	56.1	-70 16	9.2	9.7	F8	2	..	14146b
34	11804	55.8	-28 14	9.5	9.2	Go	1	..	40085b	84	2239	56.2	+50 10	5.90	6.18	Fo	8	5,R	37316i
35	12193	55.8	-29 25	9.4	8.9	A3	3	..	40085b	85	2736	56.2	+30 23	8.7	9.7	Ko	2	..	38719i
36	12756	55.8	-30 25	10.2	9.5	F5	3	..	40279b	86	2735	56.2	+29 55	8.61	9.61	Ko	3	..	38719i
37	12484	55.8	-31 50	9.1	8.9	F5	5	..	40279b	87	3046	56.2	+13 50	8.3	8.6	F2	4	..	38754i
38	10692	55.8	-34 59	8.58	8.8	Fo	5	..	40279b	88	2933	56.2	+12 46	8.1	8.4	F2	5	..	38754i
39	10596	55.8	-36 35	10.0	10.2	F2	3	..	37631b	89	4048	56.2	-11 40	9.4	10.2	G5	1	..	40589b
40	10658	55.8	-37 46	8.2	8.7	Ao	6	..	14367b	90	4384	56.2	-20 29	9.4	9.5	Fo	3	..	40300b
41	10288	55.8	-39 21	9.2	9.5	Ao	4	..	14367b	91	12644	56.2	-23 33	10.9	10.7	G5	1	..	40316b
42	10494	55.8	-41 53	9.5	10.1	A3	4	..	23764b	92	10703	56.2	-34 55	8.54	8.4	B9	6	..	40279b
43	10985	55.8	-42 46	11.0	10.7	A3	2	..	23764b	93	10677	56.2	-35 54	7.7	8.7	Ko	5	..	40279b
44	10396	55.8	-45 36	8.7	9.3	Ao	4	..	42502b	94	3217	56.2	-65 49	9.2	10.2	Ko	2	..	21785b
45	10511	55.8	-48 26	9.1	9.1	B5	3	..	42502b	95	2046	56.3	+50 56	8.0	9.1	K2	3	..	38766i
46	10512	55.8	-48 57	4.74	6.8	G5	..	5,8R	28,211	96	2956	56.3	+40 6	8.5	8.5	Ao	3	..	38718i
47	6976	55.8	-55 39	9.9	10.0	A2	3	..	21734b	97	3047	56.3	+13 34	7.02	7.44	F5	8	..	38754i
48	6604	55.8	-58 53	6.64	7.8	K5	9	..	37619b	98	4133	56.3	- 8 24	9.9	10.4	F8	2	..	41229b
49	2610	55.8	-68 9	7.2	7.2	B9	9	R	21785b	99	4289	56.3	-19 30	9.1	10.7	G5	2	..	40300b
50	2804	55.9	+31 38	8.7	9.2	F8	4	..	38719i	100	4071	56.3	-22 24	7.7	7.3	B9	7	..	40284b

## THE HENRY DRAPER CATALOGUE.

143600

15<sup>h</sup> 56<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	12471	56.3	-24 35	10.4	10.3	Ko	2	..	40284b	51	12493	56.6	-31 57	10.2	9.8	G5	2	..	40279b
2	10148	56.3	-40 43	9.6	10.3	K5	2	..	21781b	52	10890	56.6	-33 46	10.0	10.4	Ao	2	..	40279b
3	10092	56.3	-50 39	8.7	9.7	K2	1	..	42502b	53	10664	56.6	-37 58	9.6	10.5	F8	3	0,1	14367b
4	7005	56.3	-53 58	9.3	9.7	F5	3	3,2	19344b	54	9739	56.6	-51 16	9.1	8.7	Ao	3	..	19894b
5	7228	56.3	-56 9	9.0	8.8	B8	3	..	37619b	55	9738	56.6	-51 36	11.6	10.2	Ao	1	..	19344b
6	6616	56.3	-58 9	8.2	8.1	A2	5	..	37619b	56	9210	56.6	-52 40	9.2	8.7	Ao	4	..	19894b
7	6613	56.3	-58 53	9.0	9.3	F8	3	..	37619b	57	9209	56.6	-52 53	8.2	8.8	K2	3	..	19894b
8	6585	56.3	-59 14	9.2	9.6	A	2	R	37619b	58	7015	56.6	-53 26	6.68	6.5	Ao	7	..	3900b
9	3791	56.3	-63 16	8.8	8.8	B8	6	..	21769b	59	6619	56.6	-58 52	8.8	9.8	Ko	1	..	37619b
10	3368	56.3	-64 46	9.1	9.9	G5	2	..	21785b	60	5527	56.6	-61 50	9.0	9.0	Ao	5	..	21769b
11	3369	56.3	-64 56	9.3	9.3	B9	3	..	21785b	61	3371	56.6	-64 43	8.9	9.9	Ko	2	..	21785b
12	2488	56.3	-69 55	9.0	10.0	Ko	2	..	14146b	62	3015	56.6	-67 18	8.7	9.7	Ko	3	..	21785b
13	2940	56.4	+39 13	8.9	9.7	G5	2	..	38718i	63	2158	56.6	-70 31	10.2	10.2	Ao	1	..	14146b
14	3048	56.4	+19 35	9.1	9.7	G	2	..	37751i	64	1691	56.6	-73 54	8.3	8.3	Ao	4	..	11726b
15	3859	56.4	-3 29	6.80	7.14	F2	8	..	41188b	65	1092	56.7	+65 41	9.1	9.9	G5	3	..	37746i
16	4291	56.4	-19 10	8.3	8.9	G5	6	..	40300b	66	3101	56.7	+18 6	5.28	6.06	G5	10	R	37751i
17	11281	56.4	-25 52	7.7	8.8	Mb	5	..	40085b	67	3132	56.7	+9 8	8.7	9.9	K5	1	..	13817b
18	11167	56.4	-26 59	11.1	10.4	Go	1	..	40085b	68	3126	56.7	+8 39	9.8	9.9	A3	1	..	13817b
19	11817	56.4	-28 51	6.16	7.5	Ko	8	..	40085b	69	4342	56.7	-6 11	8.9	9.9	Ko	3	..	41242b
20	10886	56.4	-33 50	9.2	11.2	Ko	1	..	40279b	70	12652	56.7	-23 58	10.6	10.1	Ko	2	..	40284b
21	10603	56.4	-36 14	10.9	10.9	K2	1	..	37631b	71	11290	56.7	-25 58	8.5	9.3	Ko	3	..	40085b
22	10149	56.4	-40 34	10.9	10.3	A3	2	..	23764b	72	11822	56.7	-28 12	9.1	9.2	K5	1	..	40085b
23	10501	56.4	-41 34	10.4	10.7	F	1	R	23764b	73	12495	56.7	-31 52	9.2	8.9	G5	5	..	40279b
24	10514	56.4	-47 56	8.6	10.2	G5	2	..	42502b	74	10707	56.7	-34 25	9.2	10.2	K2	1	..	39928b
25	10095	56.4	-50 33	7.8	7.8	Ao	7	..	19894b	75	10708	56.7	-35 0	8.18	8.2	A2	7	..	40279b
26	3792	56.4	-63 37	9.0	10.1	K2	1	..	21769b	76	10151	56.7	-40 28	11.6	10.4	A2	1	..	23764b
27	3218	56.4	-65 14	9.3	9.3	B9	5	..	21785b	77	10494	56.7	-43 39	9.2	9.9	Ko	3	..	23764b
28	2355	56.5	+45 44	9.0	9.3	F2	3	..	37730i	78	10593	56.7	-45 4	9.7	10.2	Ao	3	..	23764b
29	2719	56.5	+38 2	9.2	10.3	K2	2	..	38718i	79	9211	56.7	-52 56	8.5	8.1	Ao	5	..	19894b
30	3031	56.5	+2 37	9.3	9.9	Go	1	..	17083b	80	7529	56.7	-57 10	9.7	9.7	B9	3	..	37619b
31	3030	56.5	+2 21	8.6	9.6	Ko	4	..	17083b	81	7527	56.7	-57 26	9.0	9.4	Ao	4	..	37619b
32	4134	56.5	-8 10	9.9	11.0	K2	1	..	41229b	82	5172	56.7	-62 26	7.9	8.9	Ko	3	..	21769b
33	4227	56.5	-11 1	8.8	10.0	K5	1	..	40589b	83	2159	56.7	-70 29	9.1	9.7	Go	2	..	14146b
34	4049	56.5	-11 18	8.6	9.1	F8	2	..	40589b	84	577	56.8	+75 55	8.12	8.40	Fo	2	..	37809i
35	12473	56.5	-24 18	9.7	8.6	Ao	6	..	40284b	85	1643	56.8	+60 3	8.7	9.3	Go	2	..	38767i
36	12475	56.5	-24 39	10.4	10.1	Ko	1	..	40284b	86	2357	56.8	+45 15	9.7	10.1	F5	2	..	37730i
37	12766	56.5	-30 23	9.7	9.5	F8	3	..	40279b	87	2805	56.8	+31 51	6.68	7.68	Ko	9	..	38719i
38	10097	56.5	-50 40	8.7	8.7	Go	4	..	19894b	88	2957	56.8	+24 44	8.71	9.71	Ko	2	..	38774i
39	6375	56.5	-60 52	8.9	8.3	Ao	6	..	21769b	89	3133	56.8	+9 13	8.6	9.8	K5	2	..	13817b
40	1690	56.5	-74 2	8.7	9.5	G5	4	..	14146b	90	4093	56.8	-3 4	9.1	10.2	K2	2	..	41533b
41	703	56.6	+72 42	7.46	8.46	Ko	5	..	37752i	91	4320	56.8	-13 53	9.7	10.3	Go	2	5,2	40580b
42	2548	56.6	+43 23	9.6	10.2	G	1	..	37730i	92	4072	56.8	-22 55	7.9	7.3	A2	6	..	40284b
43	2655	56.6	+41 10	8.8	9.8	Ko	3	..	37730i	93	12479	56.8	-24 50	10.2	10.1	Ko	1	..	40284b
44	2897	56.6	+11 50	8.6	10.0	Ma	1	..	38754i	94	12209	56.8	-29 23	10.4	10.1	A2	2	..	40085b
45	3131	56.6	+9 33	8.7	9.9	K5	1	..	13817b	95	12208	56.8	-29 59	8.38	9.5	K5	3	..	40279b
46	4217	56.6	-18 35	10.1	10.9	G5	1	..	37760b	96	10891	56.8	-33 49	9.8	10.1	Ao	2	..	40279b
47	12649	56.6	-23 24	9.7	10.1	Ko	1	..	40284b	97	10609	56.8	-36 35	8.6	9.6	Go	4	..	14367b
48	12478	56.6	-24 35	10.9	9.8	F5	2	..	40284b	98	10608	56.8	-36 50	8.0	8.7	Ko	7	..	14367b
49	12770	56.6	-30 39	7.79	8.0	F5	8	..	40279b	99	10832	56.8	-38 19	4.97	4.85	B5	..	0,9	28,211
50	12494	56.6	-31 27	9.9	9.8	Ko	3	..	40279b	100	10516	56.8	-47 12	8.5	9.3	B3	3	..	42502b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

143700

15<sup>h</sup> 56<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	7008	56.8	-55 4	9.52	10.0	K2	2	..	21734b	51	9748	57.1	-51 22	9.9	9.3	B5	3	..	19344b
2	5174	56.8	-62 45	9.7	9.8	A2	2	..	21769b	52	6993	57.1	-54 52	8.2	8.0	B5	5	..	19894b
3	578	56.9	+76 4	8.42	8.48	A2	1	..	37809i	53	6625	57.1	-58 43	9.0	9.6	Go	2	..	37619b
4	2660	56.9	+32 19	7.31	8.31	Ko	7	..	38719i	54	6627	57.1	-58 56	9.0	9.2	G5	5	..	37619b
5	2752	56.9	+29 13	8.3	9.1	G5	7	..	38719i	55	5535	57.1	-61 57	8.8	9.8	K2	2	..	21769b
6	2506	56.9	+28 25	8.7	9.2	F8	3	..	38719i	56	5177	57.1	-62 9	9.4	9.3	B5	5	..	21769b
7	2767	56.9	+26 27	7.89	8.23	F2	5	0.5	38774i	57	3220	57.1	-65 30	8.9	9.9	Ko	1	..	21785b
8	2936	56.9	+12 20	7.7	8.5	G5	3	..	38754i	58	1551	57.2	+61 7	9.4	9.8	F5	2	..	37746i
9	3099	56.9	+4 6	8.5	9.5	Ko	2	..	17083b	59	2049	57.2	+51 27	9.4	9.5	A3	2	..	38766i
10	4343	56.9	-6 31	9.4	9.5	A5	2	..	41242b	60	2549	57.2	+43 16	8.9	9.7	G5	1	..	37730i
11	4051	56.9	-11 29	9.4	10.2	G5	2	..	40589b	61	2663	57.2	+33 37	5.43	5.93	F8	10	R	38719i
12	4236	56.9	-15 12	9.61	10.11	F8	2	..	40589b	62	3049	57.2	+13 45	7.42	7.56	A5	7	..	38754i
13	4471	56.9	-17 35	8.9	9.4	F8	4	..	40300b	63	4476	57.2	-17 9	9.4	10.4	Ko	3	..	37760b
14	4472	56.9	-17 54	8.3	8.4	A2	5	..	40300b	64	4221	57.2	-18 14	10.1	11.3	K5	1	..	37760b
15	12481	56.9	-24 44	6.93	7.5	Ao	8	..	40284b	65	4294	57.2	-19 43	9.2	9.8	G5	3	..	40300b
16	10153	56.9	-40 44	9.8	10.4	K2	3	..	23764b	66	11171	57.2	-26 26	6.88	7.7	F8	8	..	40085b
17	7009	56.9	-55 9	9.87	9.7	F8	2	..	21734b	67	10715	57.2	-34 57	9.58	9.6	Ao	3	..	40279b
18	7245	56.9	-57 2	9.6	10.6	Ko	1	..	37619b	68	10107	57.2	-50 13	9.61	9.0	B8	2	..	19894b
19	5175	56.9	-62 40	9.6	9.6	Ao	1	..	21769b	69	6628	57.2	-58 58	9.2	10.4	Ko	2	..	37619b
20	1955	56.9	-71 40	7.06	7.3	Fo	10	..	14146b	70	6597	57.2	-59 11	10.1	10.1	B9	2	..	37619b
21	1692	56.9	-73 32	9.5	9.5	Ao	3	..	14146b	71	3018	57.2	-67 32	9.7	9.7	B9	3	..	21785b
22	2530	57.0	+44 33	6.92	7.92	Ko	8	..	37730i	72	1957	57.2	-71 42	9.1	9.4	Fo	2	..	14146b
23	3048	57.0	-0 33	7.33	7.39	A2	7	..	13412b	73	802	57.2	-80 34	10.0	10.0	Ao	2	..	40252b
24	3861	57.0	-3 16	9.9	10.9	Ko	1	..	41533b	74	1104	57.3	+64 6	8.6	8.9	F2	4	..	37746i
25	4474	57.0	-17 37	9.9	10.9	Ko	2	..	37760b	75	1552	57.3	+61 44	9.9	10.3	F5	2	..	37746i
26	4074	57.0	-22 30	10.8	11.5	Ko	1	..	40316b	76	2244	57.3	+50 12	8.6	8.7	A5	5	5.2	38766i
27	12656	57.0	-23 53	7.6	9.3	K2	3	..	40284b	77	2754	57.3	+28 53	9.2	10.2	Ko	4	..	38719i
28	10730	57.0	-27 52	9.9	8.9	Ao	4	..	40085b	78	3077	57.3	+7 30	8.5	8.8	Fo	4	..	13817b
29	10691	57.0	-35 6	8.14	9.6	K2	3	..	40279b	79	4220	57.3	-5 45	9.4	10.2	G5	1	..	41533b
30	10611	57.0	-36 8	10.6	10.5	F8	2	..	37631b	80	4169	57.3	-8 7	10.1	10.7	Go	2	..	41229b
31	10669	57.0	-37 19	10.9	10.2	Fo	2	..	37631b	81	4136	57.3	-8 14	8.1	9.3	K5	4	..	41242b
32	10672	57.0	-37 37	10.2	10.9	K2	1	..	37631b	82	4400	57.3	-12 38	10.1	10.7	Go	1	..	40589b
33	10837	57.0	-38 27	10.9	10.4	A2	2	..	37631b	83	4323	57.3	-13 33	8.1	8.4	Fo	7	5.7	40580b
34	10836	57.0	-38 42	10.2	9.5	A2	4	..	14367b	84	4222	57.3	-18 30	10.1	11.1	Ko	1	..	37760b
35	11001	57.0	-42 12	7.9	8.6	F5	8	..	23764b	85	4295	57.3	-19 33	7.13	7.5	A2	8	..	40300b
36	11000	57.0	-42 58	8.7	10.3	K2	2	..	23764b	86	12488	57.3	-24 22	9.5	8.6	Ao	5	..	40284b
37	10498	57.0	-43 8	9.3	9.6	Ao	4	..	23764b	87	11295	57.3	-25 36	5.10	7.2	Ko	..	0.10	56,137
38	9746	57.0	-51 40	9.7	8.4	B5	3	..	19894b	88	11827	57.3	-28 13	9.5	9.2	Ao	3	..	40085b
39	3219	57.0	-65 19	8.9	10.1	K5	2	..	21785b	89	12780	57.3	-30 42	9.9	9.9	F8	1	..	39300b
40	763	57.0	-81 39	9.1	9.1	Ao	3	..	13442b	90	12505	57.3	-31 43	6.11	7.0	F5	10	..	40279b
41	1832	57.1	+53 25	8.2	9.3	K2	4	..	38766i	91	10841	57.3	-38 30	11.1	10.4	Go	1	..	37631b
42	2048	57.1	+51 4	8.3	8.3	Ao	4	0.2	38766i	92	10507	57.3	-41 26	8.0	8.3	A2	8	..	23764b
43	2570	57.1	+27 25	8.3	9.5	K5	2	3.2	38719i	93	10409	57.3	-45 12	9.72	9.7	A5	4	..	23764b
44	3136	57.1	+9 34	9.3	10.3	Ko	1	..	13817b	94	10526	57.3	-48 31	9.9	9.4	Ao	2	..	42502b
45	4398	57.1	-12 14	10.1	10.6	F8	2	..	40589b	95	9754	57.3	-51 40	11.6	10.2	B9	1	..	19344b
46	4075	57.1	-22 53	10.6	10.4	A2	3	..	40316b	96	7018	57.3	-56 4	7.5	8.5	Ma	4	..	37619b
47	11170	57.1	-26 21	8.5	8.6	Ao	7	..	40085b	97	7536	57.3	-57 9	9.2	10.6	K5	1	..	37619b
48	12500	57.1	-31 44	9.7	9.3	A2	3	..	40279b	98	7535	57.3	-57 49	10.3	10.3	B9	2	..	37619b
49	10504	57.1	-41 5	10.9	10.7	A2	2	..	23764b	99	6599	57.3	-60 2	9.8	9.9	A2	3	..	21769b
50	11004	57.1	-43 0	8.5	9.2	A3	5	..	23764b	100	6385	57.3	-60 45	8.9	9.5	A2	6	..	21769b

## THE HENRY DRAPER CATALOGUE.

143800

15<sup>h</sup> 57<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2489	57.3	-69 48	9.3	9.4	A2	4	..	14146b	51	5180	57.6	-62 50	9.3	9.6	Fo	4	..	21769b
2	269	57.4	+85 35	7.05	7.19	A5	8	..	37294i	52	3798	57.6	-63 57	9.0	10.2	K5	1	..	21769b
3	579	57.4	+75 52	6.94	7.72	G5	6	..	37809i	53	3377	57.6	-64 17	7.8	8.8	Ko	7	..	21785b
4	853	57.4	+69 55	8.69	9.47	G5	1	..	37752i	54	..	57.6	-73 42	..	..	K2	4	..	14146b
5	2446	57.4	+49 23	8.8	9.8	Ko	4	5, I	38766i	55	2349	57.7	+48 36	9.1	9.4	Fo	3	..	38766i
6	2942	57.4	+39 26	6.67	6.67	Ao	8	..	38718i	56	2360	57.7	+45 16	8.8	9.6	G5	1	..	37730i
7	2738	57.4	+30 7	4.9 I	4.9 I	Ao	..	R	56,93	57	4221	57.7	-5 33	7.02	8.09	K2	5	..	41188b
8	2769	57.4	+26 40	8.3	8.7	F5	2	5,3 R	38470i	58	4139	57.7	-8 30	9.2	9.6	F5	1	..	41242b
9	3100	57.4	+3 56	8.3	8.9	Go	4	..	17083b	59	4203	57.7	-16 54	9.7	10.9	K5	3	..	37760b
10	4230	57.4	-10 21	9.4	9.9	F8	2	..	41229b	60	10621	57.7	-36 54	8.9	9.3	F5	6	..	14367b
11	12217	57.4	-29 51	8.9	8.7	F8	4	..	40279b	61	10678	57.7	-37 4	10.2	10.9	K5	2	..	37631b
12	10676	57.4	-37 58	9.5	8.4	Ao	7	..	14367b	62	10845	57.7	-38 39	9.8	9.8	F5	3	..	14367b
13	10508	57.4	-41 34	9.2	10.1	Ko	2	..	23764b	63	11013	57.7	-43 4	9.0	9.2	F5	5	..	23764b
14	10537	57.4	-46 33	10.1	10.4	B9	3	..	37577b	64	10541	57.7	-46 8	10.1	9.6	B8	4	..	37577b
15	10528	57.4	-48 32	9.3	9.0	B8	3	..	42502b	65	10542	57.7	-46 15	9.1	9.0	Fo	5	..	37577b
16	9219	57.4	-52 58	9.1	9.3	Ao	2	..	19894b	66	9759	57.7	-51 29	10.6	9.9	F8	1	..	19344b
17	7025	57.4	-55 32	8.0	8.5	G5	6	..	19894b	67	9224	57.7	-52 40	10.1	9.9	B2	1	..	19344b
18	1628	57.5	+57 42	9.4	9.9	F8	2	..	38767i	68	7006	57.7	-54 46	9.2	9.4	B9	3	..	21734b
19	3864	57.5	-3 23	8.1	8.4	F2	6	..	41188b	69	6601	57.7	-59 25	9.1	10.3	K5	1	..	37619b
20	4261	57.5	-21 56	9.4	10.4	G5	2	..	40284b	70	6386	57.7	-60 20	9.1	10.1	Ko	2	..	21769b
21	12660	57.5	-24 3	10.4	10.7	K2	1	..	40284b	71	5181	57.7	-62 22	9.7	9.8	A2	3	..	21769b
22	11831	57.5	-28 8	10.2	8.9	Ao	4	..	40085b	72	1629	57.8	+57 28	9.4	10.4	Ko	1	..	38767i
23	11377	57.5	-32 47	7.06	7.7	Fo	8	..	40279b	73	2050	57.8	+51 6	8.2	8.6	F5	3	0,2	38766i
24	10163	57.5	-40 33	7.8	7.7	A2	3	..	43284b	74	2663	57.8	+42 7	9.1	9.7	G	1	..	37730i
25	11011	57.5	-42 16	11.0	11.0	K5	1	..	23764b	75	2867	57.8	+21 10	8.3	8.8	F8	2	..	37751i
26	10299	57.5	-49 44	7.3	7.9	Ko	8	..	19894b	76	3129	57.8	-1 22	7.9	9.0	K2	2	..	13412b
27	7043	57.5	-53 50	8.9	9.1	G5	4	..	19894b	77	4140	57.8	-8 12	8.1	8.2	A5	6	..	41242b
28	7044	57.5	-53 54	8.2	9.5	Ma	2	..	19894b	78	4240	57.8	-16 7	7.9	8.9	Ko	5	..	40300b
29	7003	57.5	-54 6	8.6	8.2	B9	7	..	19894b	79	11383	57.8	-32 10	10.6	10.1	Ko	2	..	40279b
30	7001	57.5	-54 47	10.2	10.2	B8	2	..	21734b	80	10165	57.8	-40 48	10.9	10.3	F8	3	..	23764b
31	7255	57.5	-56 26	9.7	9.7	B9	4	..	37619b	81	10603	57.8	-45 4	11.0	10.4	B9	2	..	37577b
32	5179	57.5	-63 4	7.60	7.5	Ao	10	..	21769b	82	10414	57.8	-46 1	var.	var.	B5	5	R	37577b
33	2160	57.5	-70 9	9.1	10.3	K5	1	..	14146b	83	10544	57.8	-46 46	9.1	9.9	Ko	3	..	37577b
34	3161	57.5	-70 32	9.3	9.4	A5	4	..	14146b	84	10532	57.8	-48 5	9.2	10.4	K2	1	..	42502b
35	472	57.6	+82 39	8.9	10.0	K2	2	..	37820i	85	10531	57.8	-48 33	8.7	8.4	Go	5	..	42502b
36	3137	57.6	+8 53	9.8	11.0	K5	1	..	13817b	86	7051	57.8	-53 6	8.5	8.9	B9	4	..	19894b
37	3117	57.6	+2 56	8.6	9.7	K2	4	..	17083b	87	7263	57.8	-56 6	9.7	9.7	Ao	3	..	37619b
38	3049	57.6	-0 9	7.58	8.36	G5	4	..	17083b	88	5539	57.8	-61 49	9.0	9.2	B5	4	..	21769b
39	4094	57.6	-2 12	8.0	9.1	K2	4	..	41533b	89	3379	57.8	-64 26	8.5	9.7	K5	1	..	21785b
40	4026	57.6	-4 32	8.2	8.6	F5	4	..	41188b	90	3222	57.8	-65 56	8.8	8.8	Ao	6	..	21785b
41	4174	57.6	-7 46	7.07	7.4 I	F2	8	..	41242b	91	599	57.8	-83 50	8.3	8.7	F5	6	..	13442b
42	4478	57.6	-18 0	8.1	9.2	K2	4	..	40300b	92	2657	57.9	+41 41	9.2	10.0	G5	1	..	37730i
43	11177	57.6	-26 43	9.5	9.2	F5	3	..	40085b	93	2663	57.9	+32 10	7.9	8.5	Go	8	..	38719i
44	10722	57.6	-34 54	10.0	9.6	Go	3	..	40279b	94	2886	57.9	+23 4	4.82	4.88	A2	..	0,9 R	56,93
45	10701	57.6	-35 10	7.25	8.2	Ko	7	..	40279b	95	2901	57.9	+11 14	9.1	9.9	G5	1	..	38754i
46	10618	57.6	-37 2	7.8	8.0	Go	8	..	14367b	96	3138	57.9	+9 8	8.6	9.8	K5	3	..	13817b
47	10539	57.6	-46 10	10.3	10.2	F8	3	..	37577b	97	3104	57.9	+3 55	8.6	9.8	K5	3	..	17083b
48	9758	57.6	-51 38	11.0	9.9	Ao	3	..	19344b	98	3033	57.9	+1 58	7.9	7.9	Ao	7	..	17083b
49	9222	57.6	-52 44	9.7	9.7	Ao	2	..	19344b	99	4296	57.9	-19 18	8.1	8.9	G5	4	..	40300b
50	6600	57.6	-59 54	9.1	9.2	A2	5	..	21769b	100	12499	57.9	-24 27	6.42	8.0	Ko	8	..	40284b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

143900

15<sup>h</sup> 57<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11301	57.9	-25 54	10.9	10.4	K2	1	..	40316b	51	6632	58.1	-58 32	9.2	10.3	G5	3	..	37619b
2	11386	57.9	-32 56	6.21	7.2	Fo	9	..	40279b	52	2892	58.1	-67 0	8.5	8.5	Ao	7	..	21785b
3	10624	57.9	-36 44	9.8	10.2	G5	4	..	37631b	53	2665	58.2	+32 20	8.7	9.7	Ko	2	..	38719i
4	11017	57.9	-42 35	10.1	9.8	A2	3	..	23764b	54	4339	58.2	-14 51	8.9	9.7	G5	4	..	40589b
5	10524	57.9	-47 48	8.3	9.3	F8	4	..	42502b	55	4223	58.2	-18 50	8.7	9.5	G5	3	..	40300b
6	10117	57.9	-50 34	8.9	9.1	F2	2	..	19894b	56	4298	58.2	-19 29	8.1	7.7	Ao	7	..	40300b
7	7042	57.9	-55 34	9.0	8.5	B9	5	..	19894b	57	11306	58.2	-25 56	10.6	9.5	F8	2	..	40316b
8	7543	57.9	-57 22	8.9	8.9	B8	4	..	37619b	58	11183	58.2	-27 2	10.6	9.5	F5	3	..	40085b
9	6602	57.9	-59 55	9.6	10.7	K2	1	..	37619b	59	10742	58.2	-27 20	10.4	9.5	A2	3	..	40085b
10	6389	57.9	-60 8	10.1	10.1	Ao	2	0,2	21769b	60	11390	58.2	-32 8	10.0	10.4	A5	3	..	40279b
11	3800	57.9	-64 4	9.5	9.9	F5	2	..	21769b	61	10682	58.2	-37 38	8.9	9.3	Ao	5	0,3	37631b
12	2889	57.9	-66 45	9.7	9.7	Ao	3	..	21785b	62	10174	58.2	-40 56	11.1	10.7	G5	1	..	23764b
13	2162	57.9	-70 44	9.5	9.9	F5	2	..	14146b	63	10507	58.2	-43 27	10.1	10.8	F8	2	..	23764b
14	1788	58.0	+54 48	7.86	7.86	Ao	5	..	38767i	64	10611	58.2	-44 56	10.3	10.6	A3	1	..	37577b
15	1787	58.0	+54 13	7.65	8.65	Ko	4	..	38767i	65	9229	58.2	-52 34	9.0	9.3	Fo	3	..	19344b
16	2551	58.0	+43 1	9.0	10.0	Ko	1	..	38718i	66	5542	58.2	-61 46	9.8	9.8	Ao	3	..	21769b
17	2664	58.0	+42 6	8.4	9.4	Ko	3	..	37730i	67	5184	58.2	-62 29	8.1	8.1	B9	7	..	21769b
18	2755	58.0	+35 8	8.7	8.8	A3	3	..	38719i	68	1904	58.2	-72 10	8.3	8.3	B8	6	..	14146b
19	3191	58.0	+19 54	8.40	9.18	G5	3	..	37751i	69	1695	58.2	-73 55	8.9	8.9	Ao	2	..	11726b
20	3128	58.0	+8 14	8.9	10.1	K5	1	..	13817b	70	2352	58.3	+48 51	8.4	9.5	K2	3	..	38766i
21	4029	58.0	-4 24	9.7	10.5	G5	2	..	41533b	71	2508	58.3	+28 34	9.9	10.7	G5	2	..	38719i
22	4233	58.0	-11 6	9.4	9.5	A2	2	..	40589b	72	2937	58.3	+12 26	8.5	9.0	F8	2	..	38754i
23	11304	58.0	-25 58	10.4	10.4	K2	1	..	40316b	73	4032	58.3	-5 0	8.45	9.63	K5	2	..	41533b
24	12234	58.0	-29 34	9.5	10.7	K5	1	..	40611b	74	12669	58.3	-23 18	11.4	10.7	Go	1	..	40316b
25	12517	58.0	-31 58	9.5	9.8	K2	3	..	40279b	75	12506	58.3	-25 0	8.60	8.1	A2	6	..	40284b
26	10903	58.0	-33 33	8.1	8.6	A2	6	..	40279b	76	11841	58.3	-28 39	7.70	8.9	K5	5	..	40085b
27	10681	58.0	-37 32	7.02	7.1	B9	3	0,9	43284b	77	10684	58.3	-37 35	10.2	10.0	Ao	3	..	37631b
28	10680	58.0	-37 35	5.96	6.6	Fo	..	2,6-	28,211	78	10851	58.3	-38 40	9.6	8.9	F8	4	..	14367b
29	10608	58.0	-44 59	11.0	10.4	Ao	2	..	37577b	79	10300	58.3	-39 25	9.2	9.5	Ao	4	..	23764b
30	10118	58.0	-50 43	9.0	9.7	K	1	..	19894b	80	10516	58.3	-41 31	10.4	10.4	F8	1	..	23764b
31	6629	58.0	-58 42	9.2	10.4	K5	2	..	37619b	81	10508	58.3	-44 1	9.7	10.6	G5	1	..	37577b
32	5183	58.0	-62 46	9.6	9.6	Ao	2	..	21769b	82	10422	58.3	-45 14	9.52	9.3	B9	6	..	23764b
33	927	58.1	+66 20	8.2	8.3	A3	6	..	37746i	83	7051	58.3	-55 30	8.5	9.1	K5	2	..	19894b
34	2449	58.1	+49 34	9.4	10.2	G5	2	..	38766i	84	7270	58.3	-56 52	8.9	10.6	Ma	1	..	37619b
35	2136	58.1	+46 33	9.1	9.9	G5	2	..	37730i	85	5543	58.3	-61 33	9.4	9.5	A2	4	..	21769b
36	3104	58.1	+18 23	7.40	7.40	Ao	5	..	37751i	86	5544	58.3	-61 43	10.3	10.3	B8	1	..	21769b
37	4264	58.1	-21 39	8.9	8.9	Ko	4	..	40284b	87	3381	58.3	-64 23	9.7	9.7	B9	2	..	21785b
38	10626	58.1	-36 38	10.2	10.0	A2	4	..	37631b	88	1694	58.4	+59 13	8.0	8.1	A3	4	2,4	38767i
39	10298	58.1	-39 9	7.02	7.3	B9p	4	R	43284b	89	2552	58.4	+43 7	9.0	9.4	F5	4	..	37730i
40	10169	58.1	-40 7	8.98	8.6	A2	6	..	23764b	90	2726	58.4	+34 44	8.84	9.84	Ko	3	..	38719i
41	10171	58.1	-40 27	7.6	8.3	F8	8	..	23764b	91	2887	58.4	+23 4	7.7	7.8	A3	4	2,5	38771i
42	10170	58.1	-40 35	10.9	10.4	A2	2	..	23764b	92	2914	58.4	+22 30	6.94	7.00	A2	7	..	37751i
43	10504	58.1	-43 23	9.1	10.4	K2	4	..	23764b	93	2984	58.4	+14 16	8.0	8.3	F2	5	..	38754i
44	10419	58.1	-45 42	10.6	10.2	A2	3	..	37577b	94	12670	58.4	-23 28	10.2	9.6	F5	3	..	40284b
45	10420	58.1	-45 52	11.0	10.5	G5	2	..	37577b	95	10685	58.4	-37 22	10.6	10.9	G5	1	..	37631b
46	10305	58.1	-49 31	8.9	8.7	F8	3	..	19894b	96	10852	58.4	-38 56	7.94	9.2	Mb	5	..	23764b
47	10119	58.1	-50 58	8.9	8.8	A3	3	..	19894b	97	10547	58.4	-46 40	9.9	10.5	Ko	2	..	37577b
48	7013	58.1	-54 38	9.2	9.2	B8	4	..	21734b	98	7272	58.4	-56 42	10.0	10.0	Ao	2	..	37619b
49	7015	58.1	-55 0	9.0	10.0	Ko	3	..	21734b	99	5187	58.4	-62 38	var.	var.	F5	7	R	21769b
50	7047	58.1	-55 49	9.3	10.3	Ko	1	..	37619b	100	3224	58.4	-65 30	9.1	9.6	F8	3	..	21785b

## THE HENRY DRAPER CATALOGUE.

144000

15<sup>h</sup> 58<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	1517	58.4	-74 45	9.0	9.0	Ao	3	..	11726b	51	10688	58.8	-37 32	11.3	10.9	F5	1	..	37631b
2	2288	58.5	+47 25	7.40	8.40	Ko	6	0,2	3773oi	52	10519	58.8	-41 30	10.4	11.0	Ko	1	..	23764b
3	2138	58.5	+46 49	8.8	9.2	F5	2	..	3773oi	53	10428	58.8	-45 48	8.1	7.4	B9	5	..	20092b
4	2575	58.5	+26 53	7.69	8.11	F5	6	0,5	38719i	54	10543	58.8	-48 34	9.7	9.4	G5	2	..	42502b
5	3130	58.5	+5 20	8.7	9.7	Ko	4	..	13817b	55	10131	58.8	-50 6	8.0	8.8	Ao	5	0,4	19894b
6	10856	58.5	-38 7	9.6	9.8	Go	4	..	14367b	56	7283	58.8	-56 19	9.9	10.2	Fo	1	..	37619b
7	10301	58.5	-40 2	9.62	10.4	K2	2	..	23764b	57	6607	58.8	-59 51	9.0	9.2	A3	3	..	21769b
8	11020	58.5	-42 54	10.3	10.4	F5	2	..	23764b	58	5548	58.8	-62 1	9.7	9.8	A5	1	..	21769b
9	2163	58.5	-70 47	7.4	8.2	G5	8	..	14146b	59	2894	58.8	-67 3	8.8	8.8	Ao	6	R	21785b
10	677	58.5	-82 5	9.3	10.5	K5	1	..	13442b	60	456	58.9	+83 34	8.8	9.2	F5	3	5,3	3782oi
11	856	58.6	+70 0	8.84	9.40	Go	2	..	37752i	61	762	58.9	+71 12	7.42	8.20	G5	7	..	37752i
12	1093	58.6	+65 10	7.75	8.82	K2	5	..	37746i	62	1105	58.9	+64 50	9.11	9.53	F5	2	..	37746i
13	1094	58.6	+65 0	8.65	9.43	G5	2	..	37746i	63	2758	58.9	+29 14	8.7	9.7	Ko	4	..	38719i
14	2554	58.6	+43 45	9.0	10.0	Ko	2	..	3773oi	64	2903	58.9	+11 42	7.29	8.36	K2	6	..	38754i
15	2962	58.6	+40 17	7.07	8.07	Ko	4	0,5	38718i	65	3105	58.9	+4 0	8.5	9.9	Ma	2	..	17083b
16	3080	58.6	+7 14	8.3	9.4	K2	2	..	13817b	66	3867	58.9	-3 9	9.7	10.8	K2	1	..	41533b
17	4329	58.6	-13 35	10.1	10.9	G5	1	..	40589b	67	4222	58.9	-5 30	9.1	10.1	Ko	2	..	41533b
18	12676	58.6	-23 50	var.	var.	Md	..	R	M	68	4143	58.9	-8 24	9.4	9.9	F8	2	..	41242b
19	12511	58.6	-24 40	9.7	9.8	G5	3	0 2	40316b	69	4237	58.9	-11 6	5.07	5.57	F8	..	R	2648c
20	11186	58.6	-26 13	9.2	8.9	A3	5	..	40085b	70	4237	58.9	-11 6	4.77	5.27	F8	..	R	2648c
21	12528	58.6	-31 21	9.7	9.5	F8	3	..	40279b	71	4056	58.9	-11 35	7.64	8.82	K5	4	..	40589b
22	10311	58.6	-49 25	9.3	8.7	Ao	3	..	19894b	72	4331	58.9	-14 3	9.1	10.1	Ko	2	..	40589b
23	7278	58.6	-56 27	8.9	8.8	B8	5	..	37619b	73	11193	58.9	-26 40	7.7	8.4	G5	7	..	40085b
24	7279	58.6	-56 46	9.7	9.7	B9	3	..	37619b	74	12533	58.9	-31 11	8.9	8.6	A3	7	..	40279b
25	7560	58.6	-57 49	9.9	10.0	A2	2	..	37619b	75	10711	58.9	-35 22	9.2	9.9	Ko	3	..	40279b
26	6394	58.6	-60 5	7.88	9.0	F2	6	..	21769b	76	10514	58.9	-43 30	9.9	10.6	A5	2	..	23764b
27	6393	58.6	-60 16	8.6	10.1	K2	3	..	21769b	77	10431	58.9	-45 43	10.6	10.4	Fo	3	..	37577b
28	3225	58.6	-65 53	9.1	9.6	F8	4	..	21785b	78	10315	58.9	-50 3	9.9	9.6	Go	2	..	37577b
29	1906	58.6	-72 45	8.2	9.0	G5	7	..	14146b	79	9239	58.9	-52 31	9.7	9.7	Ao	2	..	19344b
30	1905	58.6	-72 51	9.5	9.6	A2	3	..	14146b	80	6608	58.9	-59 49	9.4	9.5	A5	2	..	21769b
31	1799	58.7	+55 44	8.3	8.8	F8	4	..	38767i	81	6398	58.9	-60 49	9.1	9.8	Ao	4	..	21769b
32	2246	58.7	+50 15	9.7	10.8	K2	1	..	38766i	82	1850	59.0	+56 42	8.2	8.6	F5	7	..	38767i
33	4330	58.7	-13 30	9.9	10.3	F5	2	..	40589b	83	2535	59.0	+44 10	9.1	9.9	G5	2	..	38718i
34	4390	58.7	-21 5	9.1	10.4	K2	1	..	40284b	84	3195	59.0	+20 29	8.7	9.5	G5	2	..	37751i
35	10710	58.7	-35 59	8.9	8.7	Ao	6	..	40279b	85	3130	59.0	+8 30	8.0	8.3	F2	7	..	19235b
36	10632	58.7	-36 20	8.6	9.3	Ko	3	..	14367b	86	4144	59.0	-8 35	8.7	9.8	K2	2	..	41242b
37	11021	58.7	-42 14	10.6	10.7	F2	1	..	23764b	87	4057	59.0	-11 11	6.93	7.93	Ko	8	R	40589b
38	7059	58.7	-55 34	9.7	9.7	B9	3	..	21734b	88	4058	59.0	-11 11	..	..	..	..	..	..
39	6635	58.7	-59 3	9.2	10.3	A2	1	..	37619b	89	4408	59.0	-12 56	9.2	10.2	Ko	4	..	40589b
40	6605	58.7	-59 14	8.8	9.8	A2	5	..	37619b	90	4407	59.0	-13 6	9.1	9.1	Ao	5	..	40589b
41	1800	58.8	+55 34	8.7	9.8	K2	1	..	38767i	91	4341	59.0	-14 39	8.7	9.8	K2	3	..	40589b
42	1929	58.8	+52 24	8.6	9.0	F5	5	..	38766i	92	4226	59.0	-18 53	8.6	9.8	K5	2	..	40300b
43	2667	58.8	+32 49	8.5	9.3	G5	2	..	38719i	93	4302	59.0	-19 23	9.4	9.8	F2	3	..	40300b
44	2742	58.8	+30 27	8.7	9.9	K5	1	..	38719i	94	4303	59.0	-20 2	8.88	9.5	Go	3	5,4	40300b
45	2915	58.8	+22 9	8.5	8.6	A2	2	..	37751i	95	12679	59.0	-23 21	9.9	10.4	K2	1	..	40284b
46	3131	58.8	+5 16	6.18	7.18	Ko	10	..	13817b	96	11317	59.0	-25 59	9.4	8.9	F5	4	3,5	40284b
47	4291	58.8	-9 39	7.41	8.41	Ko	6	..	41242b	97	11196	59.0	-26 45	9.2	9.3	Ko	4	..	40085b
48	4406	58.8	-13 6	9.1	10.2	K2	3	..	40589b	98	11399	59.0	-32 37	9.6	9.3	A2	5	..	40279b
49	11192	58.8	-26 24	10.6	9.8	Go	2	..	40085b	99	10712	59.0	-35 53	7.75	8.4	Ko	6	..	40279b
50	11851	58.8	-28 14	9.5	9.8	A2	3	..	40085b	100	10689	59.0	-37 14	11.1	10.5	Go	2	..	37631b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

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15<sup>h</sup> 59<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10432	m. 59.0	• 45 34	10.1	10.2	Ao	3	..	37577b	51	3147	m. 59.3	• 6 19	8.04	9.11	K2	3	..	13817b
2	9240	59.0	-52 55	8.7	8.1	B9	3	..	19894b	52	4036	59.3	-4 57	9.1	10.3	K5	1	..	41533b
3	7068	59.0	-55 48	8.9	9.2	Ko	3	..	37619b	53	4227	59.3	-5 28	9.2	10.3	K2	1	..	41533b
4	6611	59.0	-59 45	9.7	10.7	Ko	1	..	37619b	54	4267	59.3	-21 46	10.1	10.7	F8	2	..	40316b
5	5549	59.0	-61 17	9.0	9.2	Fo	5	..	21769b	55	12816	59.3	-30 59	10.6	10.1	F5	1	..	39300b
6	2490	59.0	-69 19	7.9	8.9	Ko	6	..	14146b	56	10634	59.3	-36 50	8.3	9.3	G5	4	..	14367b
7	1106	59.1	+64 2	9.2	9.8	Go	2	..	37746i	57	11030	59.3	-42 11	11.0	10.7	A2	2	..	23764b
8	1445	59.1	+62 21	7.8	9.0	K5	4	..	37746i	58	10435	59.3	-45 19	10.3	10.8	Ko	2	..	37577b
9	1801	59.1	+55 48	8.0	9.2	K5	3	..	38767i	59	6615	59.3	-59 6	9.1	9.8	B9	4	..	37619b
10	2051	59.1	+51 37	8.6	9.4	G5	3	..	38766i	60	6400	59.3	-60 49	8.5	8.9	B8	6	..	21769b
11	2760	59.1	+29 6	9.5	10.6	K2	2	..	38719i	61	5552	59.3	-61 57	9.1	10.1	K2	1	..	21769b
12	4209	59.1	-16 37	9.1	10.3	K5	1	..	40589b	62	5192	59.3	-62 31	9.5	9.5	B9	3	..	21769b
13	4392	59.1	-20 38	8.3	8.3	A2	7	0,7	40300b	63	5191	59.3	-63 1	9.4	9.7	Fo	2	..	21769b
14	11199	59.1	-26 9	9.2	9.8	K2	3	..	40085b	64	3807	59.3	-63 56	8.7	10.1	Ma	1	..	21769b
15	12535	59.1	-31 11	7.10	7.7	A2	9	..	40279b	65	3385	59.3	-64 35	8.7	8.7	B9	6	..	21785b
16	10915	59.1	-33 43	8.0	8.0	Ao	7	..	40279b	66	2899	59.3	-66 5	9.4	9.9	F8	3	..	21785b
17	10746	59.1	-34 15	10.2	9.9	Ao	3	0,2	40279b	67	519	59.3	-84 12	8.5	9.3	G5	4	..	13442b
18	10302	59.1	-39 34	7.84	8.0	A3	9	..	23764b	68	2764	59.4	+34 57	8.30	8.30	Ao	6	..	38719i
19	10185	59.1	-40 27	8.2	9.3	K5	4	..	23764b	69	3131	59.4	+8 25	8.1	9.1	Ko	5	..	19235b
20	10517	59.1	-43 22	10.6	10.8	F5	1	..	23764b	70	3082	59.4	+7 39	8.3	8.6	F2	7	..	13817b
21	7073	59.1	-56 0	9.2	9.7	Ao	3	..	37619b	71	3149	59.4	+6 15	7.14	8.14	Ko	7	..	13817b
22	6612	59.1	-59 55	9.32	9.2	A2	4	..	21769b	72	3160	59.4	+0 56	7.04	7.54	F8	9	..	17083b
23	3804	59.1	-63 24	9.7	9.7	Ao	2	..	21769b	73	3451	59.4	+0 14	8.9	10.1	K5	1	..	17083b
24	3384	59.1	-64 31	9.7	9.7	B9	2	..	21785b	74	4213	59.4	-16 22	10.1	10.2	A2	2	..	40589b
25	1907	59.1	-72 18	8.7	9.7	Ko	2	..	14146b	75	12687	59.4	-23 23	8.2	7.5	Ao	7	..	40284b
26	1908	59.1	-72 37	8.8	10.0	K5	2	..	14146b	76	11204	59.4	-26 41	8.3	8.0	F5	7	..	40085b
27	1447	59.2	+62 14	9.1	9.9	G5	2	..	37746i	77	11861	59.4	-28 18	9.4	8.9	F8	5	..	40085b
28	2555	59.2	+43 41	9.1	9.1	Ao	3	..	37730i	78	12259	59.4	-29 9	10.4	10.4	Ao	2	..	40611b
29	2666	59.2	+42 45	9.1	9.5	F5	2	..	37730i	79	11405	59.4	-32 35	7.87	8.4	G5	7	..	40279b
30	2949	59.2	+10 16	8.7	10.1	Ma	..	..	M	80	10555	59.4	-46 21	10.6	11.0	Ko	2	..	37577b
31	3119	59.2	+3 28	9.1	10.1	Ko	1	..	17083b	81	10138	59.4	-50 19	9.9	10.2	Go	1	..	37577b
32	3120	59.2	+3 3	9.1	10.1	Ko	2	..	17083b	82	10137	59.4	-50 30	9.9	10.2	K5	1	..	37577b
33	4225	59.2	-5 21	9.7	10.5	G5	1	..	41533b	83	7079	59.4	-55 55	6.28	7.5	Fo	..	5,9	56,137
34	4228	59.2	-18 16	6.75	7.17	F5	9	..	40300b	84	7293	59.4	-56 44	10.6	10.6	Ao	1	..	37619b
35	12682	59.2	-23 46	10.4	10.1	Ko	2	..	40284b	85	1519	59.4	-74 29	8.4	9.6	K5	1	..	11726b
36	11321	59.2	-25 37	10.4	10.7	K2	1	..	40316b	86	2706	59.5	+37 48	8.7	9.1	F5	2	..	38718i
37	12537	59.2	-31 57	9.2	8.6	F2	5	..	40279b	87	3141	59.5	+9 23	9.1	10.1	Ko	1	..	13817b
38	10304	59.2	-39 28	10.2	9.8	Ao	3	..	23764b	88	4103	59.5	-2 57	9.7	10.7	Ko	2	..	41533b
39	10522	59.2	-41 52	9.6	9.5	Ao	4	..	23764b	89	4356	59.5	-6 34	9.4	10.4	Ko	2	..	41229b
40	11029	59.2	-42 48	11.0	10.7	A2	1	..	23764b	90	12690	59.5	-23 49	11.6	10.1	A2	2	..	40284b
41	11028	59.2	-43 3	11.0	11.0	A2	1	..	23764b	91	11323	59.5	-25 50	10.6	9.5	Ao	3	..	40316b
42	10519	59.2	-43 15	10.6	11.0	G5	1	..	23764b	92	11206	59.5	-26 54	9.7	9.5	F8	4	..	40085b
43	10319	59.2	-49 39	8.9	8.7	F8	3	..	19894b	93	11406	59.5	-32 26	9.3	9.5	G5	3	..	40279b
44	7081	59.2	-53 33	8.6	8.9	B8	5	..	19894b	94	10716	59.5	-35 45	9.3	9.1	A3	4	..	40279b
45	7076	59.2	-55 29	9.7	9.7	Ao	4	..	21734b	95	10635	59.5	-36 15	9.8	10.2	A2	2	..	14373b
46	2164	59.2	-71 2	8.7	9.7	Ko	2	..	14146b	96	10628	59.5	-44 14	9.9	10.1	F2	4	..	23764b
47	2762	59.3	+35 18	8.7	9.8	K2	2	..	38719i	97	10625	59.5	-44 54	4.84	5.7	A3p	..	1,7 R	28,211
48	2776	59.3	+26 41	8.7	9.5	G5	2	..	38774i	98	10548	59.5	-48 30	8.5	8.5	B8	4	..	42502b
49	3108	59.3	+18 4	6.91	7.91	Ko	5	..	37751i	99	5554	59.5	-61 17	8.4	9.6	Ko	2	..	21769b
50	2950	59.3	+10 16	8.0	8.3	Fo	5	..	38754i	100	3386	59.5	-65 2	9.4	9.4	Ao	4	..	21785b



## THE HENRY DRAPER CATALOGUE.

144200

15<sup>h</sup> 59<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2620	59.5	-68 43	8.3	9.4	K2	4	..	21785b	51	4184	59.8	- 8 8	9.4	10.5	K2	1	..	41229b
2	2491	59.5	-69 14	10.3	10.3	Ao	2	..	14146b	52	4231	59.8	-18 27	9.9	10.5	Go	2	..	37760b
3	857	59.6	+70 1	8.84	9.62	G5	2	..	37752i	53	4399	59.8	-20 10	7.33	8.1	Ko	8	..	40316b
4	1834	59.6	+53 12	6.18	7.25	K2	6	3,9	37316i	54	4269	59.8	-21 34	7.80	7.5	Ao	7	..	40284b
5	2291	59.6	+47 31	var.	var.	Mc	8	5,6 R	37730i	55	4080	59.8	-22 42	11.0	11.5	F5	1	..	40316b
6	2142	59.6	+46 19	4.64	4.62	B9	..	R	56,93	56	10764	59.8	-27 30	10.9	9.6	F8	3	..	40085b
7	2557	59.6	+43 18	8.6	8.9	F2	3	..	37730i	57	12822	59.8	-30 55	11.1	10.4	Ao	1	..	39300b
8	2708	59.6	+36 55	5.85	6.27	F5	9	R	38504i	58	10312	59.8	-39 57	10.6	10.1	F8	3	..	23764b
9		59.6	+36 55			A2	9			59	10189	59.8	-40 10	7.22	8.0	Go	10	..	23764b
10	3150	59.6	+ 6 28	8.7	8.8	A3	6	..	13817b	60	10631	59.8	-44 37	9.1	9.0	F8	7	..	23764b
11	3052	59.6	- 0 54	7.8	8.9	K2	5	0,5	41188b	61	7106	59.8	-53 20	9.0	9.2	F2	3	..	19894b
12	4357	59.6	- 7 0	9.7	10.7	Ko	1	..	41229b	62	7305	59.8	-56 51	10.0	10.0	B8	3	..	37619b
13	4241	59.6	-10 57	8.8	8.9	A2	4	..	40589b	63	6642	59.8	-58 42	6.83	7.5	A2	10	..	37619b
14	4060	59.6	-11 22	8.7	9.1	F5	4	..	40589b	64	5561	59.8	-61 14	8.6	9.0	B9	6	..	21769b
15	4343	59.6	-14 49	8.9	9.9	Ko	3	..	40589b	65	3810	59.8	-63 38	8.4	8.4	B8	7	..	21769b
16	4230	59.6	-18 24	9.7	10.5	G5	3	..	37760b	66	803	59.8	-80 32	7.8	8.8	Ko	6	..	13442b
17	4307	59.6	-19 32	2.90	2.68	B1	..	R	28,211	67	678	59.8	-82 59	9.2	9.3	A3	3	..	13442b
18	4308	59.6	-19 32	5.06	4.84		..			68	457	59.9	+83 6	8.8	9.2	F5	4	..	37813i
19	4395	59.6	-20 13	9.7	9.8	G5	2	..	40316b	69	2366	59.9	+45 0	8.72	9.06	F2	3	..	37730i
20	4396	59.6	-20 18	9.4	9.6	G5	2	..	40316b	70	2730	59.9	+34 17	8.5	9.0	F8	4	..	38719i
21	4079	59.6	-23 3	11.2	11.0	Fo	1	..	40316b	71	3870	59.9	- 3 15	6.88	6.88	Ao	6	..	41735b
22	12692	59.6	-23 57	7.45	8.3	Ko	6	..	40284b	72	4039	59.9	- 4 53	9.2	10.4	K5	1	..	41533b
23	11327	59.6	-25 57	11.4	9.8	A2	1	..	40316b	73	4309	59.9	-19 25	8.1	8.1	Ao	7	..	40300b
24	10720	59.6	-35 30	10.2	10.0	A2	3	..	40279b	74	4081	59.9	-23 7	10.3	9.8	Go	3	..	40284b
25	10692	59.6	-37 46	8.2	8.1	F5	7	..	14367b	75	11333	59.9	-25 38	10.2	9.8	F2	2	..	40316b
26	10437	59.6	-45 46	10.6	10.4	A5	2	..	37577b	76	11866	59.9	-28 44	9.4	10.7	K2	1	..	40611b
27	10557	59.6	-46 6	7.9	7.9	F8	3	..	20092b	77	10874	59.9	-38 59	8.4	7.9	Ao	10	..	23764b
28	10549	59.6	-48 10	9.5	9.4	Go	3	5,2	37577b	78	10446	59.9	-45 35	10.1	11.1	Ko	1	..	37577b
29	7085	59.6	-55 24	9.5	10.0	F8	3	..	21734b	79	6643	59.9	-58 28	8.8	9.2	B8	5	..	37619b
30	6640	59.6	-58 44	8.8	10.1	K5	3	..	37619b	80	6618	59.9	-59 20	10.1	10.1	Ao	1	..	37619b
31	5193	59.6	-62 42	6.6	6.6	B9	7	..	36336b	81	5195	59.9	-62 28	9.6	9.6	Ao	3	..	21769b
32	3808	59.6	-63 29	10.0	10.1	A2	1	..	21769b	82	858	0.0	+67 54	6.82	7.16	F2	8	..	37746i
33	1910	59.6	-72 21	10.2	10.3	A3	1	..	14146b	83	1095	0.0	+65 12	7.10	7.16	A2	9	..	37746i
34	1699	59.6	-73 29	8.8	9.8	Ko	1	..	14146b	84	1608	0.0	+58 50	4.11	4.61	F8	..	3, R	2037c
35	1520	59.6	-74 47	7.7	7.7	Ao	6	..	11726b	85	2766	0.0	+35 49	8.2	8.5	F2	5	..	38719i
36	2354	59.7	+48 10	9.0	9.3	F2	2	..	38766i	86	2809	0.0	+31 18	9.2	10.2	Ko	1	..	38719i
37	2808	59.7	+31 27	8.7	9.8	K2	1	..	38719i	87	3020	0.0	+25 30	7.06	7.62	Go	6	..	38470i
38	3132	59.7	+ 7 56	8.6	9.8	K5	3	..	19235b	88	3133	0.0	+ 8 34	8.7	9.7	Ko	3	..	19235b
39	4182	59.7	- 7 9	9.7	10.5	G5	1	..	41229b	89	4402	0.0	-20 13	8.88	9.0	A2	4	..	40316b
40	11035	59.7	-42 54	9.0	10.1	Ko	3	..	23764b	90	4401	0.0	-20 53	8.8	9.2	Ko	4	..	40284b
41	10559	59.7	-46 48	8.9	9.3	Ao	7	..	37577b	91	11335	0.0	-25 25	10.5	9.8	Fo	3	..	30416b
42	10322	59.7	-49 51	9.9	9.7	A3	3	..	37577b	92	10769	0.0	-27 33	9.0	9.8	K5	1	..	40085b
43	7045	59.7	-54 23	8.1	7.9	F8	7	..	19894b	93	10643	0.0	-36 12	10.3	10.2	A3	1	..	14373b
44	6641	59.7	-58 7	9.8	9.8	Ao	3	..	37619b	94	10642	0.0	-36 32	4.33	4.16	B3	..	R	28,211
45	1852	59.8	+56 51	9.2	10.4	K5	1	..	38767i	95	10875	0.0	-38 52	8.9	9.2	F2	4	..	23764b
46	1803	59.8	+55 29	9.4	10.5	K2	1	..	38767i	96	10192	0.0	-40 21	8.5	8.3	A2	8	..	23764b
47	2355	59.8	+48 37	8.0	9.0	Ko	4	..	38766i	97	7095	0.0	-55 59	10.5	10.5	Ao	2	..	37619b
48	2292	59.8	+47 0	8.38	8.52	A5	3	3,1	37730i	98	7583	0.0	-57 14	9.7	9.7	B9	3	..	37619b
49	2559	59.8	+42 54	9.0	9.8	G5	2	..	37730i	99	5196	0.0	-63 2	9.0	9.0	B9	5	..	21769b
50	4038	59.8	- 4 13	8.5	8.9	F5	4	0,3	41533b	100	1522	0.0	-75 1	7.76	8.1	A3	7	..	11726b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

144300

16<sup>h</sup> 0<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	352	m. 0.1	+84 52	8.03	8.53	F8	5	..	37813i	51	11037	m. 0.3	-43 1	7.2	8.0	A2	2	..	43284b
2	1645	0.1	+59 54	7.76	8.54	G5	5	..	37746i	52	10549	0.3	-47 17	9.5	10.4	A3	2	..	37577b
3	3197	0.1	+20 7	8.7	9.3	Go	2	..	37751i	53	7062	0.3	-54 32	9.1	9.1	B9	3	..	19894b
4	2952	0.1	+9 55	7.72	7.86	A5	6	..	38754i	54	7100	0.3	-55 45	9.0	10.0	K5	1	..	37619b
5	3109	0.1	+4 32	9.8	9.9	A5	3	..	17083b	55	2492	0.3	-69 48	9.9	9.9	Ao	3	..	14146b
6	3121	0.1	+3 17	8.7	9.7	Ko	1	..	17083b	56	2165	0.3	-70 34	9.7	10.0	Fo	2	..	14146b
7	3452	0.1	+0 9	9.0	10.0	Ko	1	..	17083b	57	250	0.3	-87 18	9.1	9.4	F2	5	..	22980b
8	4105	0.1	-3 5	7.8	8.8	Ko	5	..	41533b	58	141	0.3	-88 42	9.2	10.0	G5	4	..	22980b
9	4231	0.1	-6 1	8.0	8.4	F5	6	..	41229b	59	2731	0.4	+34 27	7.02	7.02	Ao	9	..	38719i
10	4412	0.1	-12 27	9.2	9.7	F8	3	..	40589b	60	2671	0.4	+32 47	8.2	9.3	K2	4	..	38719i
11	4270	0.1	-21 28	var.	var.	Md	1	R	40316b	61	2872	0.4	+16 18	8.5	9.5	Ko	1	..	38782i
12	4082	0.1	-22 20	9.8	10.7	K2	1	..	40316b	62	4234	0.4	-6 1	6.36	6.78	F5	9	..	41229b
13	11336	0.1	-25 35	11.3	10.6	G5	1	..	40316b	63	4360	0.4	-6 49	8.4	9.4	Ko	6	..	41229b
14	11413	0.1	-32 37	8.9	9.3	Ko	3	..	40279b	64	4243	0.4	-15 12	8.66	9.66	Ko	4	2,1	40589b
15	10193	0.1	-40 26	10.8	9.6	B8	3	..	23764b	65	4234	0.4	-19 7	9.0	9.2	G5	3	..	40300b
16	10554	0.1	-48 9	6.86	7.0	Ao	5	0,8	3930b	66	4311	0.4	-19 31	9.3	8.9	A2	4	..	40300b
17	9793	0.1	-51 40	11.0	9.7	Ao	2	..	19344b	67	12534	0.4	-24 40	8.8	9.2	Ko	5	0,4	40316b
18	7118	0.1	-53 25	8.2	8.8	Ao	6	..	19894b	68	10924	0.4	-33 40	9.7	11.2	A	1	R	39300b
19	7121	0.1	-54 0	9.1	9.4	F2	2	..	19894b	69	10924	0.4	-33 40	9.7	11.2	A	1	..	39300b
20	7060	0.1	-54 51	8.6	9.1	B2	4	..	21734b	70	10645	0.4	-36 7	8.2	9.1	G5	5	0,4	14373b
21	7097	0.1	-55 43	8.7	9.5	Ko	4	..	37619b	71	10454	0.4	-45 21	9.1	10.1	Ko	2	..	23764b
22	6412	0.1	-60 15	9.8	9.8	B8	3	..	21769b	72	7103	0.4	-55 22	9.5	10.5	Ko	1	..	21734b
23	5563	0.1	-61 32	7.7	9.5	K2	5	..	21769b	73	7312	0.4	-56 56	8.2	8.5	B8	6	..	37619b
24	5197	0.1	-62 39	9.4	10.6	K5	1	..	21769b	74	7597	0.4	-57 15	10.2	10.2	B8	2	..	37619b
25	3389	0.1	-64 53	9.6	9.6	B9	3	..	21785b	75	3230	0.4	-65 53	8.9	9.3	F5	5	..	21785b
26	1958	0.1	-71 16	9.2	10.2	Ko	1	..	14146b	76	1704	0.4	-73 48	9.5	9.6	A2	2	..	14146b
27	1096	0.2	+65 47	9.1	9.9	G5	2	..	37746i	77	4336	0.5	-13 38	8.4	9.5	K2	5	..	40589b
28	1646	0.2	+60 46	8.8	9.3	F8	2	..	37746i	78	11343	0.5	-25 57	9.3	10.1	Ma	2	..	40316b
29	2907	0.2	+11 13	8.5	8.8	F2	4	..	38754i	79	11209	0.5	-26 51	11.3	9.8	A2	1	..	40316b
30	3142	0.2	+9 33	10.1	10.9	G5	1	..	13817b	80	10201	0.5	-40 30	10.3	9.3	A5	5	..	23764b
31	3122	0.2	+3 20	8.5	8.9	F5	5	..	17083b	81	11041	0.5	-42 59	9.9	9.8	A3	4	..	23764b
32	4040	0.2	-5 4	10.0	11.2	K5	1	..	41533b	82	10530	0.5	-43 7	10.6	10.8	F8	2	..	23764b
33	4271	0.2	-21 19	9.5	10.1	F8	3	..	40316b	83	10554	0.5	-47 42	7.9	9.6	K5	4	3,3	37577b
34	12700	0.2	-23 20	5.94	5.8	B8	..	1,4	56,137	84	10329	0.5	-49 41	10.1	9.9	Ao	2	..	37577b
35	12833	0.2	-30 53	11.0	10.4	A2	1	..	39300b	85	9799	0.5	-51 14	8.6	9.0	Ao	3	..	19894b
36	12830	0.2	-31 4	9.8	9.2	F2	3	..	39300b	86	9258	0.5	-52 48	7.1	7.9	K5	4	..	19894b
37	10526	0.2	-44 0	9.2	9.6	F2	5	..	23764b	87	2166	0.5	-70 28	9.3	10.3	Ko	1	..	14146b
38	10450	0.2	-45 4	7.32	8.4	Ko	7	5,2	23764b	88	3144	0.6	+9 2	9.5	10.6	K2	1	..	13817b
39	10449	0.2	-45 14	9.9	9.3	Ao	4	..	23764b	89	..	0.6	-5 19	..	..	Ko	1	..	41533b
40	7098	0.2	-55 25	9.2	10.6	Ma	..	..	M	90	4235	0.6	-5 53	6.49	7.49	Ko	8	..	41229b
41	7588	0.2	-58 0	10.5	10.5	B9	2	..	37619b	91	4153	0.6	-8 30	8.2	9.0	G5	4	..	41242b
42	6646	0.2	-58 9	9.0	9.8	G5	3	..	37619b	92	4297	0.6	-9 54	9.8	10.8	Ko	1	..	41229b
43	5198	0.2	-62 56	9.6	9.6	Ao	3	..	21769b	93	4064	0.6	-12 3	8.2	8.8	Go	6	..	40589b
44	580	0.3	+76 22	7.98	8.76	G5	2	..	37809i	94	4404	0.6	-20 58	9.8	9.8	Ao	3	..	40316b
45	1930	0.3	+52 30	9.8	10.6	G5	1	..	38766i	95	4272	0.6	-21 54	10.2	10.1	F5	3	..	40316b
46	3062	0.3	+13 23	8.5	9.6	K2	1	..	38754i	96	11210	0.6	-26 9	9.8	8.9	Ao	4	..	40316b
47	4232	0.3	-5 45	9.3	10.4	K2	2	..	41229b	97	10925	0.6	-34 1	8.9	9.8	A3	3	..	40279b
48	4242	0.3	-10 32	9.0	9.8	G5	3	..	40589b	98	10535	0.6	-43 16	11.0	11.0	Ao	2	..	23764b
49	10772	0.3	-27 26	10.3	9.3	F8	3	..	40085b	99	10567	0.6	-46 15	7.4	7.0	Ao	4	..	3930b
50	10526	0.3	-41 47	7.3	8.3	K2	7	..	23764b	100	10555	0.6	-47 44	9.9	10.5	Fo	2	..	37577b

## THE HENRY DRAPER CATALOGUE.

144400

16<sup>h</sup> 0<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	7316	m. 0.6	° 56 21	9.4	10.0	Go	3	..	37619b	51	4275	m. 0.9	° 21 36	8.2	8.0	Fo	7	..	40316b
2	6648	0.6	-58 24	9.5	9.5	B9	3	..	37619b	52	4274	0.9	-21 39	9.8	9.6	G	3	..	40316b
3	3231	0.6	-65 38	8.8	8.8	Ao	6	..	21785b	53	12707	0.9	-23 22	9.3	10.4	K2	2	..	40284b
4	1836	0.7	+53 43	9.2	10.2	Ko	1	..	38767i	54	12285	0.9	-29 33	10.3	9.8	G5	1	..	40611b
5	1835	0.7	+53 29	8.4	9.6	K5	4	..	38766i	55	10931	0.9	-33 26	8.0	8.3	Ao	7	..	40279b
6	1931	0.7	+51 52	9.8	10.9	K2	1	..	38766i	56	10333	0.9	-49 49	8.7	10.2	K5	2	..	37577b
7	2662	0.7	+41 2	9.1	9.6	F8	2	..	3773oi	57	7151	0.9	-53 31	8.9	9.1	F2	4	..	19894b
8	3134	0.7	+5 27	9.3	9.3	Ao	5	..	13817b	58	7110	0.9	-55 16	10.2	10.2	Ao	2	..	21734b
9	4236	0.7	-5 12	8.90	8.90	Ao	3	..	41533b	59	3820	0.9	-63 12	8.4	9.4	Ko	5	..	21769b
10	4244	0.7	-10 37	9.5	10.5	Ko	2	..	40589b	60	3390	0.9	-64 19	9.7	9.7	Ao	2	..	21769b
11	4243	0.7	-10 44	9.8	10.8	Ko	2	..	40589b	61	2167	0.9	-70 53	9.0	10.0	Ko	2	..	14146b
12	4235	0.7	-18 24	8.8	8.9	A2	4	..	40300b	62	1090	0.9	-78 42	8.7	9.5	G5	3	..	40252b
13	4313	0.7	-19 58	9.53	10.4	A5	2	..	40316b	63	351	1.0	+83 55	7.06	7.14	A3	6	2,8	37240i
14	10926	0.7	-33 53	8.8	9.8	A2	3	..	40279b	64	1633	1.0	+57 41	8.8	9.8	Ko	3	..	38767i
15	10648	0.7	-36 29	5.77	6.8	Fo	..	0,10	28,21i	65	1806	1.0	+55 27	8.8	9.4	Go	3	..	38767i
16	11042	0.7	-42 12	8.6	9.2	Ao	7	..	23764b	66	1837	1.0	+53 40	9.1	10.2	K2	2	..	38766i
17	9803	0.7	-51 22	7.4	8.7	K2	4	..	19894b	67	1932	1.0	+52 30	9.2	9.7	F8	2	..	38766i
18	7143	0.7	-53 40	8.6	9.2	Ko	3	..	19894b	68	2250	1.0	+50 46	9.1	10.1	Ko	2	..	38766i
19	5201	0.7	-62 33	9.7	9.8	A3	3	..	21769b	69	4157	1.0	-8 16	9.5	9.8	Fo	3	..	41229b
20	3233	0.7	-65 15	8.6	9.6	Ko	3	..	21785b	70	4405	1.0	-20 24	4.13	3.94	B2	..	R	28,21i
21	3232	0.7	-65 29	9.1	10.1	Ko	1	..	21785b	71	12711	1.0	-23 37	11.0	9.8	F8	2	..	40284b
22	2621	0.7	-68 13	8.4	8.5	A2	7	..	21785b	72	12709	1.0	-23 52	9.3	8.0	A3	5	0,5	40316b
23	2144	0.8	+46 44	9.3	9.9	Go	2	..	3773oi	73	12570	1.0	-31 18	9.8	9.5	A5	3	..	39300b
24	2672	0.8	+32 25	8.7	9.2	F8	2	..	38719i	74	10733	1.0	-35 32	8.8	10.2	Ko	1	..	39300b
25	2954	0.8	+10 13	10.1	10.2	A3	3	..	13817b	75	10649	1.0	-36 27	6.82	7.8	Ko	9	..	14367b
26	3134	0.8	+8 22	6.14	6.20	A2	6	..	38754i	76	10706	1.0	-37 9	8.6	9.0	A2	6	..	14367b
27	3124	0.8	+3 11	9.1	9.9	G5	1	..	17083b	77	10883	1.0	-38 49	8.8	9.2	F8	4	..	23764b
28	4237	0.8	-5 17	9.10	10.17	K2	2	..	41533b	78	10539	1.0	-43 33	8.0	7.8	B9	8	..	23764b
29	4298	0.8	-9 50	8.8	9.6	G5	3	..	41229b	79	7093	1.0	-54 16	8.0	8.0	B8	8	..	19894b
30	4066	0.8	-12 3	9.2	9.7	F8	3	..	40589b	80	7613	1.0	-57 40	5.79	6.1	Ao	..	0,R	28,21i
31	4084	0.8	-22 38	9.5	9.2	F8	4	..	40284b	81	5202	1.0	-62 42	6.54	6.6	A2	10	..	21769b
32	10778	0.8	-27 27	8.0	8.4	Fo	6	..	40085b	82	2622	1.0	-69 1	9.3	9.4	A2	3	..	14146b
33	11425	0.8	-32 52	7.52	7.5	A5	7	..	40279b	83	2494	1.0	-69 13	8.1	9.1	Ko	4	..	14146b
34	10205	0.8	-40 6	10.3	10.1	G5	3	..	23764b	84	2493	1.0	-69 55	9.33	10.0	Ko	2	..	14146b
35	10204	0.8	-40 23	10.8	10.3	Ao	2	..	23764b	85	2168	1.0	-70 5	9.3	9.4	A3	3	..	14146b
36	10537	0.8	-43 47	10.3	10.5	A3	2	..	23764b	86	2169	1.0	-70 19	8.8	8.9	A3	5	..	14146b
37	10647	0.8	-44 18	9.9	10.4	Ko	2	..	23764b	87	2452	1.1	+49 13	9.3	10.1	G5	2	..	38766i
38	10645	0.8	-44 33	11.0	10.4	A2	2	..	23764b	88	2582	1.1	+26 59	9.2	9.3	A3	2	..	38774i
39	10556	0.8	-47 45	9.3	9.6	B3	3	..	37577b	89	2951	1.1	+15 30	8.5	9.5	Ko	2	..	38754i
40	9264	0.8	-52 52	8.2	8.5	Ko	3	..	19894b	90	3454	1.1	-0 7	7.43	8.21	G5	7	..	17083b
41	7604	0.8	-57 15	10.0	10.0	B9	2	..	37619b	91	4108	1.1	-3 4	8.7	9.7	Ko	3	..	41533b
42	5567	0.8	-61 34	9.7	10.7	Ko	2	..	21769b	92	4042	1.1	-4 30	8.0	8.5	F8	5	..	41533b
43	2901	0.8	-66 32	9.2	9.3	A2	6	..	21785b	93	4068	1.1	-11 39	7.26	7.54	Fo	8	..	40589b
44	450	0.8	-85 16	8.5	9.7	K5	2	..	13458b	94	4415	1.1	-12 14	8.8	9.6	G5	3	..	40589b
45	1856	0.9	+56 44	9.6	10.4	G5	1	..	38767i	95	4218	1.1	-16 17	10.0	11.0	K	1	..	40589b
46	2965	0.9	+40 44	9.4	10.0	G	1	..	3773oi	96	4407	1.1	-21 2	9.8	10.7	Ko	1	..	40316b
47	2920	0.9	+22 27	8.3	8.8	F8	2	..	38771i	97	4086	1.1	-22 43	9.5	9.8	Ko	3	..	40284b
48	4362	0.9	-6 24	9.8	9.8	Ao	2	..	41229b	98	11216	1.1	-26 16	9.1	10.1	K2	2	..	40316b
49	4067	0.9	-11 52	8.6	9.1	F8	5	..	40589b	99	11215	1.1	-26 49	8.8	8.4	Fo	5	..	40611b
50	4337	0.9	-14 3	8.0	8.8	G5	7	..	40589b	100	12846	1.1	-30 8	9.63	10.1	G5	1	..	39300b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

144500

16<sup>h</sup> 1<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10736	1.1	-35 39	9.5	10.2	Ao	1	..	39300b	51	10936	1.3	-33 51	9.5	11.2	Ko	1	..	40279b
2	10708	1.1	-37 29	8.8	9.6	B8	4	..	14367b	52	10530	1.3	-41 59	8.8	9.2	Ko	4	..	23764b
3	10707	1.1	-37 46	7.7	8.5	G5	7	..	14367b	53	10543	1.3	-43 19	9.2	9.6	A5	6	..	23764b
4	10558	1.1	-47 37	10.1	10.2	G5	2	..	37577b	54	10564	1.3	-48 18	9.0	9.0	G5	2	..	23045b
5	7156	1.1	-53 52	9.4	9.4	B8	3	..	19894b	55	9806	1.3	-51 41	9.9	9.3	B3	3	0,2	19344b
6	7333	1.1	-56 38	8.2	8.8	G5	5	R	37619b	56	7099	1.3	-54 55	7.03	8.6	K5	3	..	19894b
7	6650	1.1	-56 38	8.8	9.6	A5	2	..	37619b	57	7121	1.3	-55 46	9.7	9.7	Ao	2	..	37619b
8	6651	1.1	-58 14	9.5	9.5	K2	2	..	37619b	58	6653	1.3	-58 21	10.0	10.1	A2	1	..	37619b
9	1912	1.1	-59 0	9.0	9.6	B8	5	..	37619b	59	5573	1.3	-62 3	9.5	9.5	B9	3	..	21769b
10	536	1.1	-72 47	9.0	9.6	Go	1	..	14146b	60	2904	1.3	-66 5	8.5	9.6	K2	4	..	21785b
11	1246	1.2	+80 55	9.0	9.3	F	1	..	37240i	61	2170	1.3	-70 52	9.4	10.0	Go	2	..	14146b
12	2668	1.2	+63 5	9.8	9.8	A	2	..	37746i	62	2733	1.4	+34 31	7.77	8.77	Ko	5	..	38719i
13	2671	1.2	+42 10	9.2	10.2	Ko	2	..	37730i	63	3063	1.4	+13 35	6.66	7.66	Ko	2	R	38754i
14	2910	1.2	+33 25	8.0	9.0	Ko	4	..	38719i	64	3064	1.4	+13 35	8.7	9.3	Ko	7	..	19235b
15	2955	1.2	+10 57	8.5	9.3	G5	2	..	38754i	65	3135	1.4	+8 52	8.4	9.4	Go	5	..	17083b
16	3042	1.2	+10 12	7.02	7.08	A2	8	..	38754i	66	3043	1.4	+2 21	9.5	9.6	Ko	4	..	41533b
17	3455	1.2	+1 58	7.48	8.26	G5	7	..	17083b	67	4043	1.4	-4 33	9.0	10.0	A2	2	..	40589b
18	4300	1.2	+0 4	8.5	9.6	K2	2	..	17083b	68	4070	1.4	-11 16	7.58	7.58	Ko	2	..	40300b
19	4246	1.2	-9 45	9.66	9.72	Ko	5	..	41229b	69	4219	1.4	-16 41	7.93	8.6	Ao	7	..	40611b
20	4339	1.2	-10 16	9.5	10.0	A2	3	..	40589b	70	12848	1.4	-30 17	11.0	10.7	Ko	5	..	23764b
21	4340	1.2	-13 40	10.4	10.9	F8	3	..	40589b	71	10324	1.4	-39 37	9.5	9.8	Fo	1	..	23764b
22	4246	1.2	-14 1	8.0	8.1	F8	1	..	11483b	72	10214	1.4	-40 41	9.7	11.0	F8	4	..	23764b
23	11354	1.2	-15 53	9.4	9.8	A2	6	1,7	40316b	73	10531	1.4	-41 13	9.1	9.2	Ko	1	..	19894b
24	11355	1.2	-25 13	9.6	8.9	Ma	3	..	40316b	74	7102	1.4	-54 51	8.5	7.9	A2	2	..	37619b
25	11353	1.2	-25 28	9.6	10.6	A2	5	..	40316b	75	7124	1.4	-55 41	10.0	10.0	Ao	7	..	37619b
26	11883	1.2	-25 57	9.3	8.9	K5	2	..	40611b	76	7621	1.4	-57 58	9.8	9.8	B9	3	..	21769b
27	10651	1.2	-28 36	8.8	9.0	Fo	4	..	14373b	77	6627	1.4	-59 49	var.	var.	Ao	3	..	M
28	10322	1.2	-39 35	9.4	9.2	F5	6	0,6	23764b	78	2251	1.5	+50 46	6.84	7.62	K5p	..	R	38718i
29	10213	1.2	-40 22	9.1	8.9	Ao	5	..	23764b	79	2947	1.5	+39 24	10.1	10.9	G5	7	0,6	19235b
30	10541	1.2	-43 27	10.3	10.5	A2	6	..	23764b	80	3146	1.5	+9 16	9.1	9.4	Fo	1	..	13817b
31	10652	1.2	-44 36	9.7	9.3	F8	2	..	23764b	81	3155	1.5	+6 28	7.9	8.2	Fo	1	..	13817b
32	10463	1.2	-45 6	8.38	7.8	B9	5	..	20092b	82	3137	1.5	+5 40	9.5	9.8	Fo	10	..	41229b
33	7114	1.2	-55 47	6.55	7.9	Ao	5	1,8	37619b	83	4189	1.5	-7 43	9.8	9.9	Fo	3	..	40589b
34	6624	1.2	-55 47	9.8	9.8	Ko	7	R	21769b	84	4071	1.5	-12 2	6.26	6.82	A3	2	..	40589b
35	5206	1.2	-60 1	9.3	9.7	A2	2	..	21769b	85	4342	1.5	-13 48	7.46	7.46	Go	10	..	40300b
36	2902	1.2	-63 0	9.3	9.7	F5	3	..	21769b	86	4491	1.5	-17 40	9.0	8.1	Ao	7	..	40316b
37	2496	1.2	-66 59	9.5	9.5	F5	3	..	21785b	87	12717	1.5	-23 41	11.3	9.8	Fo	6	5,7	40316b
38	1959	1.2	-69 25	9.0	9.1	Ao	3	..	14146b	88	11359	1.5	-25 20	10.1	9.8	Go	2	..	40611b
39	1649	1.3	+60 44	8.2	9.2	Go	6	..	14146b	89	12300	1.5	-29 42	9.6	10.7	Go	1	..	39300b
40	1697	1.3	+59 41	6.20	7.55	Ko	2	..	37746i	90	12849	1.5	-30 38	6.90	6.6	Ko	1	..	39300b
41	2665	1.3	+41 2	8.8	10.2	Ma	6	..	37746i	91	10742	1.5	-35 58	10.5	10.1	B9	9	0,10	23764b
42	2921	1.3	+22 11	7.21	7.63	Ma	1	..	37730i	92	10532	1.5	-41 56	9.3	9.9	Go	2	..	23764b
43	3053	1.3	-1 5	9.8	9.9	F5	5	..	37751i	93	10548	1.5	-43 31	9.1	9.6	F8	3	..	23764b
44	4159	1.3	-8 51	10.4	11.0	A5	1	..	41533b	94	10549	1.5	-44 1	7.9	7.9	F5	6	..	37577b
45	4301	1.3	-9 15	9.5	9.6	G	1	..	41229b	95	10562	1.5	-47 5	8.5	8.5	K2	3	..	21769b
46	4276	1.3	-21 48	9.2	8.9	A3	3	..	41229b	96	5207	1.5	-62 39	8.7	9.7	B9	9	..	21769b
47	12299	1.3	-29 12	9.0	9.3	Go	5	..	40316b	97	3822	1.5	-63 59	9.5	10.5	Ao	7	..	21785b
48	12577	1.3	-31 16	9.0	8.9	Ko	2	..	40611b	98	3235	1.5	-65 31	7.76	7.82	Ko	2	..	38766i
49						G5	5	..	39300b	99	1933	1.6	+52 3			A2	8	..	38719i
50										100	2814	1.6	+31 50						

## THE HENRY DRAPER CATALOGUE.

144600

16<sup>h</sup> 1<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3205	1.6	+20 36	8.8	9.8	Ko	1	..	38771i	51	2497	1.8	-69 30	9.2	10.0	G5	1	..	14146b
2	2946	1.6	+11 58	8.7	9.7	Ko	1	..	38754i	52	650	1.9	+74 13	7.96	8.96	Ko	2	..	37752i
3	3147	1.6	+9 33	9.1	9.6	F8	3	..	19235b	53	1557	1.9	+61 37	7.8	7.9	A3	5	..	37746i
4	4240	1.6	-5 46	9.5	10.7	K5	1	..	41533b	54	1698	1.9	+59 22	7.06	8.06	Ko	5	..	37746i
5	4191	1.6	-7 17	9.3	10.5	K5	2	..	41229b	55	1839	1.9	+53 1	9.2	10.3	K2	3	0,3-	38766i
6	4190	1.6	-7 26	9.5	10.7	K5	1	..	41229b	56	2056	1.9	+51 45	9.3	10.3	Ko	2	..	38766i
7	4493	1.6	-18 6	8.4	9.5	K2	4	..	40300b	57	2540	1.9	+43 53	8.4	8.8	F5	3	..	3773oi
8	4408	1.6	-20 36	4.58	5.14	Go	..	5,8R	28,211	58	3876	1.9	-4 2	8.2	9.2	Ko	4	..	41533b
9	4409	1.6	-20 40	8.8	8.9	G5	5	..	40316b	59	4194	1.9	-7 26	9.0	9.3	Fo	5	..	41229b
10	12547	1.6	-24 30	9.8	9.8	G5	2	..	40316b	60	4195	1.9	-7 55	9.5	10.5	Ko	3	..	41229b
11	11360	1.6	-25 47	10.5	10.1	Ko	3	..	40316b	61	12552	1.9	-24 11	6.22	6.5	B8	..	..	56,137
12	12852	1.6	-30 21	8.0	8.0	Ao	7	..	40611b	62	11224	1.9	-26 36	10.5	9.6	Ao	2	..	40611b
13	12853	1.6	-30 27	8.8	8.6	A2	3	..	40611b	63	10796	1.9	-27 28	7.30	8.6	K5	6	..	40611b
14	10654	1.6	-44 50	10.3	10.2	B9	3	..	23764b	64	12587	1.9	-31 20	9.6	9.5	Ko	2	..	39300b
15	9809	1.6	-51 34	9.9	9.3	Ao	2	..	19894b	65	10943	1.9	-33 46	8.8	8.4	Ao	5	..	40279b
16	9273	1.6	-52 22	8.7	9.4	Ao	2	..	19894b	66	10787	1.9	-34 14	8.8	9.3	F8	4	..	40279b
17	2626	1.6	-68 14	9.9	9.9	Ao	3	..	21785b	67	10894	1.9	-38 49	6.71	7.6	Ao	9	R	14367b
18	1145	1.6	-76 25	8.9	9.0	A3	4	..	11726b	68	10893	1.9	-38 50	6.44	7.9	Ao	9	R	14367b
19	930	1.7	+65 59	9.2	9.3	A2	4	..	37746i	69	11060	1.9	-42 27	10.3	10.3	A2	3	..	23764b
20	2815	1.7	+31 9	8.3	9.7	Ma	3	..	38719i	70	10567	1.9	-47 14	10.1	10.2	A2	4	..	37577b
21	3207	1.7	+19 59	8.85	9.63	G5	1	..	38771i	71	10569	1.9	-48 20	9.5	9.6	F2	4	..	37577b
22	3117	1.7	+18 38	var.	var.	Md	1	R	38771i	72	10346	1.9	-49 40	10.6	9.7	Ao	3	..	37577b
23	4111	1.7	-2 59	8.7	8.8	A5	4	..	41533b	73	10175	1.9	-50 10	11.0	9.9	Go	1	..	37577b
24	10533	1.7	-41 14	9.1	10.4	Ko	3	..	23764b	74	10174	1.9	-50 12	11.0	10.2	Ko	1	..	37577b
25	10565	1.7	-48 0	9.1	9.3	Ao	2	..	23045b	75	6659	1.9	-58 45	9.0	9.3	A2	5	..	37619b
26	10343	1.7	-49 35	9.5	9.6	Ao	4	..	37577b	76	5211	1.9	-62 40	9.3	9.3	B9	5	..	21769b
27	9275	1.7	-52 29	9.0	9.6	Ko	1	..	19344b	77	3826	1.9	-63 26	9.2	10.2	Ko	2	..	21769b
28	7345	1.7	-56 11	7.5	7.8	K2	..	0,3-	56,137	78	2172	1.9	-70 44	10.2	10.3	A2	2	..	14146b
29	7347	1.7	-56 50	9.2	9.7	Ao	2	..	37619b	79	2171	1.9	-71 0	8.8	9.1	F2	4	..	14146b
30	6631	1.7	-59 20	9.1	10.7	K2	1	..	37619b	80	2057	2.0	+51 39	9.5	10.3	G5	1	..	38766i
31	5578	1.7	-61 27	8.1	8.9	A2	7	..	21769b	81	2671	2.0	+42 19	8.8	9.8	Ko	4	..	3773oi
32	3394	1.7	-64 12	9.3	9.3	Ao	3	..	21769b	82	2675	2.0	+32 30	6.90	8.08	K5	7	..	38719i
33	1960	1.7	-71 18	7.9	7.9	B9	9	..	14146b	83	3137	2.0	+7 55	8.9	9.4	F8	3	..	19235b
34	1705	1.7	-73 30	9.4	9.5	A3	3	..	14146b	84	3046	2.0	+2 48	9.5	10.3	G5	1	..	17083b
35	1934	1.8	+52 25	9.2	10.3	K2	2	..	38766i	85	4046	2.0	-5 4	10.0	10.5	F8	2	..	41533b
36	3875	1.8	-3 37	7.66	9.01	Ma	4	..	41533b	86	4241	2.0	-5 14	9.8	10.2	F5	2	..	41533b
37	4302	1.8	-10 3	9.66	10.16	F8	2	..	41229b	87	4424	2.0	-12 41	8.4	9.0	Go	5	..	40589b
38	4422	1.8	-12 36	9.8	9.9	A3	3	..	40589b	88	4250	2.0	-15 23	8.6	9.0	F5	5	0,4	40589b
39	4420	1.8	-12 52	8.2	8.5	F2	6	..	40589b	89	4316	2.0	-19 44	8.9	9.8	Ko	3	..	40316b
40	4351	1.8	-14 30	9.2	10.2	Ko	4	..	40589b	90	11369	2.0	-26 3	5.64	7.7	Ma	..	0,8	56,137
41	4279	1.8	-21 9	8.4	8.6	G5	5	0,7	40284b	91	10789	2.0	-34 54	8.0	8.4	A3	6	..	40279b
42	11365	1.8	-25 38	11.0	10.4	Ko	1	..	40316b	92	10659	2.0	-44 23	10.6	10.8	A	2	R	23764b
43	10328	1.8	-39 29	10.3	10.7	Ko	1	..	23764b	93	10659	2.0	-44 23	10.6	10.8	A	2	R	23764b
44	10220	1.8	-40 38	10.1	10.1	F2	3	..	23764b	94	10473	2.0	-45 14	8.82	9.0	F8	5	..	23764b
45	11057	1.8	-42 12	9.9	11.0	K5	1	..	23764b	95	10348	2.0	-49 41	10.1	9.6	Bo	3	..	37577b
46	11055	1.8	-42 17	10.6	10.7	Ao	2	..	23764b	96	9814	2.0	-51 51	7.6	7.8	Ao	8	..	19894b
47	10345	1.8	-49 21	10.3	9.9	Bo	3	..	37577b	97	7353	2.0	-56 48	10.2	10.2	Ao	1	..	37619b
48	10170	1.8	-50 26	8.6	9.4	Ko	3	..	37577b	98	6438	2.0	-60 48	9.8	9.8	Ao	3	..	21769b
49	7350	1.8	-56 15	9.9	10.0	A2	2	..	37619b	99	6437	2.0	-60 57	9.0	9.5	B9	6	..	21769b
50	7629	1.8	-57 29	8.1	8.9	K5	4	..	37619b	100	5212	2.0	-62 17	9.2	10.4	K5	1	..	21769b

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16<sup>h</sup> 2<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2627	m. 2.0	° -68 11	9.1	9.4	Fo	4	..	21785b	51	10752	m. 2.3	° -35 16	9.7	9.9	A2	4	..	14373b
2	2499	2.0	-69 21	7.9	7.9	B8	8	..	14146b	52	10660	2.3	-36 40	9.4	9.9	G5	3	..	14373b
3	1450	2.1	+62 0	8.3	9.1	G5	3	..	37746i	53	10663	2.3	-44 42	9.9	9.6	B9	4	..	23764b
4	2297	2.1	+47 51	8.0	9.0	Ko	3	..	37730i	54	5580	2.3	-61 55	10.0	10.0	Ao	2	..	21769b
5	2772	2.1	+35 17	8.5	9.1	Go	5	..	38719i	55	2628	2.3	-68 52	8.8	8.8	Ao	6	..	14146b
6	3131	2.1	- 1 21	8.5	9.6	K2	2	..	41533b	56	1913	2.3	-72 28	8.9	9.4	F8	3	..	14146b
7	4073	2.1	-11 18	8.7	9.8	K2	3	..	40589b	57	601	2.3	-83 5	9.6	9.7	A2	2	..	13442b
8	4425	2.1	-12 28	5.64	5.64	Ao	..	..	56.93	58	651	2.4	+74 36	8.2	9.2	Ko	1	..	37752i
9	4344	2.1	-13 15	9.2	9.6	F5	4	..	40589b	59	1699	2.4	+59 39	8.7	9.0	Fo	3	..	37746i
10	4251	2.1	-15 51	9.2	9.3	A5	4	..	40589b	60	1935	2.4	+52 20	9.5	10.6	K2	2	..	38766i
11	4220	2.1	-16 15	9.5	9.9	F5	4	..	40589b	61	2456	2.4	+49 1	8.9	9.9	Ko	2	..	38766i
12	4089	2.1	-22 44	10.7	10.4	Go	2	..	40316b	62	3128	2.4	+ 3 38	8.0	9.0	Ko	4	..	17083b
13	12556	2.1	-24 40	9.8	9.8	F8	3	..	40316b	63	3054	2.4	- 0 41	9.1	9.4	F2	4	..	41533b
14	10474	2.1	-46 4	10.1	10.2	A3	3	..	37577b	64	4113	2.4	- 2 23	8.2	8.6	F5	5	..	41533b
15	10581	2.1	-46 24	11.6	10.2	Ao	2	..	37577b	65	4199	2.4	- 8 4	8.4	8.8	F5	6	..	41229b
16	9286	2.1	-52 27	8.9	8.8	Ao	3	..	19894b	66	4494	2.4	-17 58	6.97	7.53	Go	8	..	40300b
17	3827	2.1	-63 54	8.2	8.7	F8	7	..	21769b	67	4281	2.4	-21 57	10.4	10.4	F8	1	..	40316b
18	3239	2.1	-65 5	8.5	9.6	K2	3	R	21785b	68	11900	2.4	-28 35	9.6	9.3	A5	3	..	40611b
19	1202	2.1	-77 52	9.0	9.1	A2	2	..	42633b	69	11901	2.4	-28 54	9.6	9.2	Ao	3	..	40611b
20	1858	2.2	+56 8	9.2	9.7	F8	2	..	38767i	70	10331	2.4	-39 43	9.1	9.5	F8	4	..	23764b
21	1791	2.2	+54 40	9.0	9.3	Fo	4	..	38767i	71	10557	2.4	-43 10	9.9	10.2	A3	3	..	23764b
22	2541	2.2	+44 1	7.72	8.72	Ko	4	..	37730i	72	10479	2.4	-45 36	10.6	11.0	K2	1	..	37577b
23	2689	2.2	+36 48	7.36	8.14	G5	3	..	38504i	73	10352	2.4	-49 21	8.3	9.6	K5	2	..	23045b
24	2881	2.2	+16 38	7.9	8.2	Fo	4	..	37751i	74	10178	2.4	-50 11	9.51	8.4	B8	2	..	19894b
25	4364	2.2	- 6 15	10.2	11.3	K2	1	..	41533b	75	7361	2.4	-56 24	9.4	10.6	K5	1	..	37619b
26	4074	2.2	-11 40	8.2	8.6	F5	6	..	40589b	76	7640	2.4	-57 31	8.5	8.9	F5	4	..	37619b
27	4354	2.2	-14 13	9.8	9.8	Ao	4	..	40589b	77	6661	2.4	-58 30	8.8	9.0	Ao	7	..	37619b
28	12725	2.2	-23 31	9.4	10.4	Mb	..	..	M	78	3829	2.4	-63 28	9.3	9.6	F2	5	..	21769b
29	12723	2.2	-23 35	9.4	8.9	Go	4	..	40316b	79	2749	2.5	+30 11	7.86	8.93	K2	6	..	38719i
30	12557	2.2	-24 20	11.3	10.1	F8	1	..	40316b	80	2994	2.5	+14 13	9.1	9.2	A2	2	..	38754i
31	11373	2.2	-25 21	9.6	10.7	K5	1	..	40316b	81	2915	2.5	+10 56	8.7	9.1	F5	2	0,2 R	13817b
32	11896	2.2	-28 9	9.8	9.8	Go	2	..	40611b	82	2956	2.5	+10 12	var.	var.	Md	..	R	M
33	12862	2.2	-30 51	11.0	10.1	F5	1	..	39300b	83	3139	2.5	+ 8 47	9.5	10.3	G5	2	..	19235b
34	12593	2.2	-31 39	9.0	9.3	Fo	4	..	39300b	84	4427	2.5	-12 45	8.8	9.1	F2	4	..	40589b
35	11061	2.2	-42 56	10.3	10.3	F2	2	..	23764b	85	11377	2.5	-25 24	10.3	9.8	G5	3	..	40316b
36	10661	2.2	-44 28	9.5	10.2	Ko	3	..	23764b	86	11225	2.5	-26 17	11.0	9.3	K5	1	..	40316b
37	10475	2.2	-45 31	11.0	10.4	Ao	2	..	37577b	87	12597	2.5	-31 46	10.3	10.1	G5	1	..	39300b
38	7357	2.2	-56 16	9.5	10.6	K2	1	..	37619b	88	10795	2.5	-34 31	10.8	10.2	A	1	R	14373b
39	6636	2.2	-59 32	9.2	9.5	Fo	3	..	21769b	89	10713	2.5	-37 48	8.8	9.9	F8	3	..	14373b
40	5579	2.2	-61 36	9.0	9.9	Ko	3	..	21769b	90	10901	2.5	-38 8	10.5	10.4	A2	1	..	14373b
41	4242	2.3	- 5 20	10.4	11.0	Go	1	..	41533b	91	10332	2.5	-39 56	10.12	10.4	F8	2	..	23764b
42	4198	2.3	- 7 42	8.0	9.0	Ko	6	..	41229b	92	10232	2.5	-41 3	10.8	10.7	Ao	1	..	23764b
43	4163	2.3	- 8 21	10.2	11.3	K2	1	..	41229b	93	10559	2.5	-43 23	7.8	9.6	Ko	5	..	23764b
44	4304	2.3	- 9 31	9.5	10.5	Ko	2	..	41229b	94	10667	2.5	-44 19	10.3	10.4	F8	2	..	23764b
45	4252	2.3	-10 11	9.61	10.79	K5	1	..	41229b	95	10572	2.5	-47 6	9.9	10.1	Ao	4	..	37577b
46	4356	2.3	-14 36	8.9	10.1	K5	3	..	40589b	96	10357	2.5	-49 4	9.7	10.1	B9	2	..	37577b
47	4413	2.3	-20 34	9.5	9.8	G5	3	..	40316b	97	9293	2.5	-52 27	8.3	8.2	Ao	5	..	19894b
48	12560	2.3	-24 51	8.6	8.6	Fo	7	..	40316b	98	7642	2.5	-57 12	9.6	10.6	Ko	1	..	37619b
49	11897	2.3	-28 43	8.6	8.6	Go	4	..	40611b	99	6443	2.5	-60 51	9.7	9.8	A2	3	..	21769b
50	12311	2.3	-29 44	8.4	9.8	Ko	1	..	40611b	100	538	2.6	+81 7	8.35	8.35	Ao	4	0,3	37813i

## THE HENRY DRAPER CATALOGUE.

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16<sup>h</sup> 2<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2024	2.6	+21 58	8.9	9.0	A5	1	..	3877ii	51	10674	2.8	-44 32	8.6	9.0	B8	7	..	23764b
2	2961	2.6	+17 10	8.5	8.9	F5	2	..	3775ii	52	10360	2.8	-49 52	10.3	9.9	Ao	3	..	37577b
3	3159	2.6	+6 22	9.1	9.7	Go	2	..	19235b	53	9823	2.8	-51 36	9.3	8.4	Ao	4	..	19894b
4	4346	2.6	-13 41	8.8	9.9	K2	3	..	40589b	54	9296	2.8	-52 41	9.6	9.6	B9	2	..	19344b
5	4222	2.6	-16 53	8.6	9.0	F5	3	..	11483b	55	7214	2.8	-53 36	8.5	9.7	K5	3	R	19344b
6	4223	2.6	-17 2	10.0	11.1	K2	1	..	40589b	56	7215	2.8	-53 49	10.0	10.0	B9	3	..	19344b
7	4093	2.6	-22 9	10.0	10.4	Ko	2	..	40316b	57	7213	2.8	-54 4	8.9	8.8	B8	5	..	19894b
8	11226	2.6	-26 29	10.3	9.8	Ko	1	..	40316b	58	7162	2.8	-55 48	7.2	7.6	B5	..	3,4-	56,137
9	11448	2.6	-32 48	9.1	10.1	Ko	2	..	39300b	59	7650	2.8	-57 10	9.4	10.6	K5	1	..	37619b
10	10334	2.6	-39 23	8.6	9.2	F8	5	..	23764b	60	7648	2.8	-57 20	8.1	7.6	B8	8	..	37619b
11	10672	2.6	-44 6	10.6	10.4	Go	2	..	23764b	61	7649	2.8	-57 44	9.0	10.0	Ko	2	..	37619b
12	10577	2.6	-48 18	8.4	8.7	G	2	..	23045b	62	6664	2.8	-58 38	10.1	10.1	Ao	2	..	37619b
13	10576	2.6	-48 58	var.	var.	Mb	2	0,2 R	37577b	63	6640	2.8	-59 18	8.1	9.0	Fo	6	..	21769b
14	10179	2.6	-50 30	7.3	8.2	K5	3	..	19894b	64	5584	2.8	-61 54	9.4	9.5	A5	4	..	21769b
15	7205	2.6	-53 10	8.4	8.8	B8	4	..	19894b	65	5217	2.8	-62 33	9.5	9.6	A2	3	..	21769b
16	7159	2.6	-55 5	7.83	8.0	B3	..	5,8	56,137	66	5216	2.8	-62 36	10.1	10.1	A	2	..	21769b
17	3402	2.6	-64 17	9.0	9.6	G	2	..	21769b	67	3833	2.8	-63 47	9.3	9.4	A2	2	..	21769b
18	3240	2.6	-65 37	9.1	10.2	K2	1	..	42473b	68	2500	2.8	-69 16	9.9	10.0	A2	1	..	14146b
19	1792	2.7	+54 42	9.8	10.6	G5	1	..	38767i	69	1961	2.8	-72 4	8.0	8.5	F8	6	..	14146b
20	4243	2.7	-6 8	10.7	11.8	K2	1	..	41533b	70	894	2.8	-79 17	9.4	10.5	K2	1	..	42633b
21	4347	2.7	-13 30	7.34	7.90	Go	7	..	40589b	71	2672	2.9	+42 29	9.2	10.0	G5	2	..	3773oi
22	4414	2.7	-20 30	8.8	8.3	Fo	6	..	40316b	72	2950	2.9	+38 56	8.6	9.4	G5	2	..	38718i
23	11379	2.7	-25 6	8.70	8.6	F2	6	..	40316b	73	2737	2.9	+34 22	8.6	9.4	G5	3	..	38719i
24	11905	2.7	-28 6	9.8	9.8	F8	3	..	40611b	74	2958	2.9	+10 10	5.63	5.77	A5	10	..	38754i
25	10760	2.7	-35 53	9.7	10.0	F8	1	..	39300b	75	3163	2.9	+6 45	9.5	10.0	F8	1	..	19235b
26	10673	2.7	-44 20	10.1	10.4	Ko	2	..	23764b	76	3162	2.9	+6 24	9.1	9.2	A2	3	..	19235b
27	10584	2.7	-46 39	9.5	9.6	Go	5	..	37577b	77	3057	2.9	-0 46	8.6	8.9	Fo	5	..	41533b
28	10578	2.7	-49 0	9.9	9.4	B9	3	..	37577b	78	12567	2.9	-24 30	10.3	9.3	F8	3	..	40316b
29	9820	2.7	-51 36	10.1	9.0	Ao	1	..	19894b	79	11909	2.9	-28 19	9.8	9.8	Ko	1	..	40611b
30	7130	2.7	-54 44	8.2	8.9	Ao	5	..	19894b	80	12603	2.9	-31 49	8.0	7.6	Go	7	..	39300b
31	6639	2.7	-59 36	9.2	10.1	G5	2	..	21769b	81	10802	2.9	-34 42	8.0	8.5	A2	8	..	14373b
32	6446	2.7	-60 57	10.3	10.4	A2	2	..	21769b	82	10668	2.9	-36 55	8.2	8.7	A2	7	..	14373b
33	3031	2.7	-67 38	8.6	9.4	G5	4	..	42473b	83	10234	2.9	-40 34	10.5	10.7	Ko	2	..	23764b
34	3032	2.7	-67 44	9.2	9.2	Ao	3	..	42473b	84	11070	2.9	-42 33	10.3	9.5	A2	4	..	23764b
35	1937	2.8	+52 23	9.6	10.6	Ko	2	..	38766i	85	7373	2.9	-56 35	9.5	10.0	F8	2	..	37619b
36	2370	2.8	+45 47	8.0	8.3	Fo	4	5,2	3773oi	86	6447	2.9	-60 48	10.1	10.1	B8	2	..	21769b
37	2969	2.8	+40 1	9.72	10.79	K2	1	..	38718i	87	3406	2.9	-64 22	9.1	9.0	B5	5	..	21769b
38	2925	2.8	+21 54	9.1	9.7	Go	1	..	3877ii	88	3241	2.9	-65 6	8.00	9.3	Ko	5	..	21785b
39	3069	2.8	+13 36	7.18	7.52	F2	7	..	38754i	89	2926	3.0	+22 6	6.34	7.34	Ko	7	..	3775ii
40	4429	2.8	-12 52	8.8	9.8	Ko	3	..	40589b	90	3164	3.0	+6 9	8.9	9.3	F5	3	..	19235b
41	4098	2.8	-22 18	10.7	11.0	F2	1	..	40316b	91	3058	3.0	-0 14	8.23	9.30	K2	4	..	17083b
42	4099	2.8	-22 35	9.3	9.8	Ko	3	..	40316b	92	4305	3.0	-9 50	6.63	7.13	F8	9	..	41229b
43	4096	2.8	-23 5	10.4	10.4	Go	1	..	40316b	93	4252	3.0	-15 49	9.5	10.0	F8	3	..	40589b
44	12731	2.8	-23 25	5.79	5.9	B9	..	0,4	56,137	94	11912	3.0	-29 3	9.1	8.9	Fo	3	..	40611b
45	10808	2.8	-27 55	9.4	9.2	A3	4	..	40611b	95	12317	3.0	-29 30	9.8	11.2	Ko	1	..	40611b
46	12314	2.8	-29 59	8.63	8.9	Go	6	..	40611b	96	10803	3.0	-34 53	8.8	10.0	Ko	3	..	14373b
47	12601	2.8	-31 50	10.3	9.2	F5	3	..	39300b	97	10236	3.0	-40 54	8.1	8.6	B8	8	..	23764b
48	10761	2.8	-35 14	8.34	9.0	G5	6	..	14373b	98	10677	3.0	-44 8	11.6	10.8	F5	2	..	23764b
49	10763	2.8	-35 28	8.9	10.5	K2	1	..	14373b	99	10573	3.0	-47 39	8.3	9.3	Go	5	..	37577b
50	10666	2.8	-36 48	8.8	9.9	Ko	3	..	14373b	100	10581	3.0	-48 42	9.5	9.9	Bo	3	..	37577b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

144900

16<sup>h</sup> 3<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	9825	3.0	-51 42	8.0	8.1	Ao	7	..	19894b	51	7175	3.3	-55 59	8.4	8.3	B8	6	..	21734b
2	6667	3.0	-58 20	9.0	10.6	Ma	1	..	37619b	52	6668	3.3	-58 36	9.2	10.7	K2	1	..	37619b
3	1653	3.1	+60 19	7.36	8.36	Ko	4	..	37746i	53	3836	3.3	-63 56	8.6	9.7	K2	4	..	21769b
4	2885	3.1	+16 0	7.92	8.99	K2	3	0,2	38754i	54	1916	3.3	-72 47	9.0	10.1	K2	1	..	14146b
5	2950	3.1	+12 40	7.40	8.18	G5	5	..	38754i	55	1611	3.4	+58 26	8.2	8.5	F2	6	..	38767i
6	3129	3.1	+2 59	8.7	9.2	F8	3	..	17083b	56	2371	3.4	+45 31	9.6	9.6	A	1	..	3773oi
7	4431	3.1	-12 28	9.8	10.3	F8	2	..	40589b	57	3212	3.4	+20 39	8.5	8.9	F5	3	..	37751i
8	4432	3.1	-12 42	10.4	10.7	Fo	1	..	40589b	58	3073	3.4	+13 5	8.5	8.8	Fo	3	..	38754i
9	4254	3.1	-15 12	10.0	10.8	G5	2	..	40589b	59	3461	3.4	+0 50	8.99	9.49	F8	2	..	17083b
10	4253	3.1	-15 52	9.8	10.8	Ko	1	..	40589b	60	3879	3.4	-3 47	9.2	9.8	G	2	..	41533b
11	11383	3.1	-26 4	10.5	10.4	Ko	1	..	40316b	61	4368	3.4	-6 47	9.8	10.4	Go	3	..	41229b
12	10238	3.1	-40 11	10.8	10.7	Ao	1	..	23764b	62	4166	3.4	-8 19	9.3	9.6	Fo	3	..	41229b
13	11072	3.1	-42 32	8.9	9.2	B9	5	..	23764b	63	4306	3.4	-9 13	9.8	10.4	Go	2	..	41229b
14	10485	3.1	-45 4	9.58	10.2	Ko	2	..	23764b	64	10959	3.4	-33 6	10.1	9.2	A2	3	..	39300b
15	10484	3.1	-45 50	11.6	10.4	B9	2	..	37577b	65	10338	3.4	-39 52	7.14	7.6	B5	3	..	43284b
16	10587	3.1	-46 15	8.6	8.8	Fo	6	..	37577b	66	10590	3.4	-46 43	10.3	10.2	Bo	2	..	37577b
17	10574	3.1	-47 36	9.7	10.6	G5	1	..	37577b	67	10588	3.4	-46 54	10.1	9.9	B9	2	..	37577b
18	10583	3.1	-48 47	10.3	9.9	Bo	1	..	37577b	68	10576	3.4	-47 9	9.0	9.3	Ao	5	..	37577b
19	7224	3.1	-53 51	9.7	10.2	F8	2	..	19344b	69	10587	3.4	-48 32	8.3	8.7	B	2	..	23045b
20	5218	3.1	-62 57	9.5	9.6	A2	3	..	21769b	70	10585	3.4	-48 45	9.9	9.9	Bo	2	..	37597b
21	3031	3.2	+25 11	var.	var.	K2	1	R	38774i	71	7240	3.4	-53 30	10.0	10.0	B8	3	..	19344b
22	2962	3.2	+17 0	7.8	8.1	F2	3	..	37751i	72	7159	3.4	-54 6	9.2	9.4	Ko	3	..	19344b
23	3151	3.2	+9 28	9.3	9.9	Go	2	..	19235b	73	7155	3.4	-54 13	9.7	9.5	Bo	3	..	19344b
24	4165	3.2	-8 29	8.8	9.2	F5	4	..	41229b	74	7661	3.4	-57 32	9.5	10.6	K2	1	..	37619b
25	4240	3.2	-18 44	7.54	7.54	Ao	7	..	11483b	75	6644	3.4	-59 10	8.5	9.2	F8	3	..	21769b
26	12880	3.2	-30 47	7.12	7.6	Fo	8	..	40611b	76	3409	3.4	-64 12	9.6	9.7	A2	2	..	21769b
27	11456	3.2	-32 23	6.74	7.5	G5	..	0,9 R	56,137	77	1615	3.5	+58 10	8.8	9.9	K2	1	..	38767i
28	11456	3.2	-32 23	7.48	7.5	G5	..	0,9 R	56,137	78	2920	3.5	+10 53	8.7	9.2	F8	2	..	19235b
29	11457	3.2	-32 28	9.7	9.3	Fo	2	..	39300b	79	4116	3.5	-2 33	9.2	10.0	G5	2	..	41533b
30	10679	3.2	-44 18	9.3	9.9	G5	4	..	23764b	80	4079	3.5	-12 4	9.3	9.3	Ao	4	..	40589b
31	10190	3.2	-50 17	11.0	9.7	Ao	2	..	37577b	81	4322	3.5	-19 11	8.4	8.3	Ao	6	..	11483b
32	7171	3.2	-55 23	8.9	8.9	Ao	4	..	21734b	82	4416	3.5	-20 40	10.7	10.7	Go	1	..	40316b
33	1707	3.2	-73 17	8.8	9.2	F5	4	..	14146b	83	4101	3.5	-22 41	8.8	9.2	Ma	3	..	40316b
34	1654	3.3	+60 31	9.3	9.9	Go	2	..	37746i	84	4102	3.5	-22 54	8.8	8.1	A2	7	..	40316b
35	2999	3.3	+14 42	7.9	8.2	Fo	3	..	38754i	85	10817	3.5	-27 38	7.6	8.9	K2	5	..	40611b
36	3071	3.3	+13 1	8.5	9.5	Ko	2	..	38754i	86	11917	3.5	-28 42	10.3	10.1	Go	2	..	40611b
37	2959	3.3	+10 22	6.67	6.75	A3	7	..	38754i	87	10961	3.5	-33 17	5.58	5.7	B8	..	..	56,137
38	4349	3.3	-14 4	9.5	10.5	Ko	2	..	40589b	88	10772	3.5	-35 22	7.20	8.1	Go	9	..	14373b
39	4255	3.3	-15 55	9.5	9.6	A3	3	..	40589b	89	10674	3.5	-36 22	8.8	9.6	B8	4	..	14373b
40	4284	3.3	-21 40	9.2	9.8	Fo	3	..	40316b	90	10688	3.5	-44 16	10.6	10.4	Ao	3	..	23764b
41	11220	3.3	-27 0	10.8	9.5	B8	2	E	40316b	91	10193	3.5	-51 2	9.9	9.4	B8	4	..	19344b
42	10813	3.3	-27 50	10.3	9.5	A3	2	..	40611b	92	6645	3.5	-59 44	10.6	10.6	Ao	1	..	37619b
43	12881	3.3	-30 18	10.1	10.1	F8	2	..	40611b	93	5219	3.5	-62 23	9.6	10.1	F8	2	..	21769b
44	12608	3.3	-31 5	8.2	9.3	Ko	4	..	39300b	94	2173	3.5	-70 28	9.4	9.5	A5	3	..	14146b
45	10958	3.3	-33 14	8.8	9.8	K5	1	..	39300b	95	1963	3.5	-71 22	9.3	9.4	A5	4	..	14146b
46	11073	3.3	-42 33	8.6	8.6	B9	7	..	23764b	96	1288	3.5	-75 48	8.9	8.9	Ao	5	..	11726b
47	10571	3.3	-43 23	7.9	9.3	G5	7	..	23764b	97	1248	3.6	+63 25	9.0	9.4	F5	2	..	37746i
48	10683	3.3	-44 15	10.3	10.2	A2	2	..	23764b	98	1939	3.6	+52 21	10.0	10.6	Go	1	..	38766i
49	10575	3.3	-47 46	10.3	10.4	Ao	2	..	37577b	99	2774	3.6	+29 16	7.68	7.76	A3	7	..	38719i
50	10363	3.3	-49 58	10.3	9.7	Go	2	..	37577b	100	2965	3.6	+17 20	6.52	7.30	G5	..	R	56,93



## THE HENRY DRAPER CATALOGUE.

145000

16<sup>h</sup> 3<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2964	3.6	+ 17 19	5.34	6.12	G5	..	R	56,93	51	3147	3.8	+ 5 40	7.9	8.9	Ko	6	..	19235b
2	3141	3.6	+ 8 48	5.90	7.25	Mb	5	5,8	38754i	52	3053	3.8	+ 2 7	8.5	9.7	K5	1	..	17083b
3	3059	3.6	- 0 38	9.3	10.3	Ko	2	..	41533b	53	4050	3.8	- 5 1	9.8	10.4	G	1	..	41533b
4	4205	3.6	- 7 57	7.61	8.61	Ko	6	..	41229b	54	4246	3.8	- 5 26	9.0	9.0	Ao	6	..	41229b
5	4307	3.6	- 9 22	7.25	7.39	A5	7	..	41229b	55	4080	3.8	- 11 17	9.5	10.7	K5	1	..	40589b
6	4434	3.6	- 12 55	10.0	10.6	Go	2	..	40589b	56	4081	3.8	- 12 6	8.0	8.0	Ao	8	..	40589b
7	4103	3.6	- 22 20	10.4	11.0	K2	1	..	40316b	57	4437	3.8	- 12 47	6.98	7.04	A2	9	..	40589b
8	12888	3.6	- 30 10	10.5	10.4	G	1	R	40611b	58	4351	3.8	- 14 0	9.8	10.6	G5	2	..	40589b
9	12889	3.6	- 30 58	9.6	10.1	K2	2	..	39300b	59	4230	3.8	- 16 55	8.0	8.6	Go	7	..	11483b
10	12614	3.6	- 31 21	9.3	8.6	F5	4	..	39300b	60	10591	3.8	- 48 15	10.6	9.9	B9	1	..	37577b
11	11077	3.6	- 42 52	9.1	10.3	K2	3	..	23764b	61	10197	3.8	- 50 17	7.16	7.9	A2	8	..	19894b
12	10493	3.6	- 45 45	10.6	10.5	B9	1	..	37577b	62	6673	3.8	- 58 13	10.7	10.7	Ao	1	..	37619b
13	10195	3.6	- 50 20	11.6	10.1	Go	1	..	37577b	63	6674	3.8	- 58 18	10.3	10.3	Ao	2	..	37619b
14	9837	3.6	- 51 14	11.0	9.9	A2	3	..	19344b	64	5593	3.8	- 61 20	9.8	9.9	A2	3	..	21769b
15	7248	3.6	- 53 14	9.6	10.6	Ko	1	..	19344b	65	3411	3.8	- 64 17	8.6	9.6	Ko	4	..	21769b
16	7382	3.6	- 56 19	10.3	10.3	Ao	2	..	37619b	66	3243	3.8	- 65 27	9.3	9.9	Go	1	..	39343b
17	7664	3.6	- 57 48	9.4	9.4	Ao	3	..	37619b	67	1709	3.8	- 73 12	9.1	10.3	K5	1	..	14146b
18	6646	3.6	- 59 12	10.7	10.7	Ao	1	..	37619b	68	1452	3.9	+ 62 35	7.9	8.9	Ko	3	..	37746i
19	5590	3.6	- 61 13	9.4	9.9	F8	2	..	21769b	69	2954	3.9	+ 39 24	8.32	8.88	Go	3	5,3	38718i
20	5591	3.6	- 61 40	7.3	7.5	Ao	5	1,10	36336b	70	3102	3.9	+ 6 55	8.5	9.7	K5	3	..	19235b
21	1637	3.7	+ 56 59	8.9	8.9	Ao	2	..	38767i	71	4052	3.9	- 4 12	8.2	8.7	F8	3	..	41533b
22	2679	3.7	+ 32 57	9.2	10.0	G5	2	..	38719i	72	4168	3.9	- 8 42	10.0	10.6	Go	2	..	41229b
23	2755	3.7	+ 30 7	9.4	9.5	A3	2	..	38719i	73	12575	3.9	- 24 28	8.6	9.3	G5	3	..	40316b
24	3146	3.7	+ 5 5	8.9	9.7	G5	5	..	19235b	74	10777	3.9	- 35 44	9.9	10.5	A	1	..	39300b
25	4206	3.7	- 7 35	9.8	10.6	G5	3	R	41229b	75	9840	3.9	- 51 8	10.6	10.2	K5	1	..	19344b
26	4255	3.7	- 10 40	8.4	8.7	Fo	4	..	40589b	76	9309	3.9	- 52 47	8.9	9.9	Ko	1	..	19344b
27	4229	3.7	- 16 59	9.8	10.8	Ko	3	..	40589b	77	7255	3.9	- 53 39	10.0	10.0	Ao	3	..	19344b
28	4228	3.7	- 17 5	9.2	10.2	Ko	3	..	40589b	78	7171	3.9	- 54 20	9.0	8.8	A3	5	..	19344b
29	4417	3.7	- 20 20	8.6	9.6	K5	3	..	40316b	79	6649	3.9	- 59 11	10.0	10.6	Go	1	..	37619b
30	4418	3.7	- 20 34	10.4	10.7	F5	1	..	40316b	80	3840	3.9	- 63 37	9.6	9.7	A2	4	..	21769b
31	11236	3.7	- 26 10	8.2	8.4	Ao	6	..	40611b	81	2632	3.9	- 68 17	8.4	9.4	Ko	4	..	42473b
32	10819	3.7	- 27 21	10.3	9.5	Go	2	..	40611b	82	2300	4.0	+ 47 46	6.58	6.58	Ao	6	0,10	37316i
33	12327	3.7	- 29 39	9.3	9.8	F2	2	..	40611b	83	2372	4.0	+ 45 19	9.0	9.6	G	2	..	37730i
34	12328	3.7	- 30 1	9.58	9.9	Ko	1	..	40611b	84	2373	4.0	+ 45 14	9.2	9.8	G	1	..	37730i
35	11466	3.7	- 32 28	9.5	9.8	F2	1	..	39300b	85	3132	4.0	+ 3 43	6.10	7.28	K5	9	..	17083i
36	10241	3.7	- 40 51	10.8	10.7	F2	1	..	23764b	86	10815	4.0	- 34 7	9.9	10.2	Ao	1	..	39300b
37	10494	3.7	- 45 7	9.72	10.1	G5	3	..	23764b	87	10680	4.0	- 36 35	9.2	9.3	Go	5	..	14373b
38	10590	3.7	- 48 42	9.0	9.1	Ko	2	..	23045b	88	10246	4.0	- 40 45	10.1	10.4	G5	3	..	23764b
39	7251	3.7	- 53 57	9.1	10.0	K5	1	..	19344b	89	10581	4.0	- 47 15	10.1	10.2	B9	2	..	37577b
40	7250	3.7	- 54 3	9.5	9.5	B9	4	..	19344b	90	10370	4.0	- 49 24	11.6	10.2	Ko	1	..	37577b
41	7168	3.7	- 54 7	9.1	10.0	K2	2	..	19344b	91	10371	4.0	- 49 30	9.2	10.4	K5	1	..	37577b
42	7665	3.7	- 57 34	10.6	10.6	Ao	1	..	37619b	92	10199	4.0	- 50 6	11.6	10.4	Ko	1	..	37577b
43	6648	3.7	- 59 44	9.1	9.9	G5	2	..	37619b	93	7390	4.0	- 56 37	9.7	9.7	B9	4	..	37619b
44	5592	3.7	- 61 50	9.7	9.8	A2	2	..	21769b	94	7667	4.0	- 57 45	9.7	9.7	B9	3	..	37619b
45	2631	3.7	- 68 22	8.9	9.7	G5	2	..	42473b	95	6450	4.0	- 60 11	9.2	9.9	A3	2	..	21769b
46	1842	3.8	+ 53 47	8.7	9.5	G5	4	..	38766i	96	1964	4.0	- 71 54	8.9	9.9	Ko	2	..	14146b
47	1841	3.8	+ 53 34	8.4	9.5	K2	3	..	38766i	97	1561	4.1	+ 61 51	9.1	9.5	F5	2	..	37746i
48	1941	3.8	+ 52 36	9.3	9.3	Ao	3	5,1	38766i	98	2955	4.1	+ 39 3	9.2	9.5	F	1	..	38718i
49	2953	3.8	+ 39 5	7.9	8.9	Ko	2	..	38718i	99	2953	4.1	+ 12 9	8.9	9.9	Ko	1	..	38782i
50	3153	3.8	+ 8 54	6.72	8.07	Mb	3	5,7	38754i	100	4502	4.1	- 18 4	6.40	6.82	F5	10	..	11483b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

145100

16<sup>h</sup> 4<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4104	4.1	-22 9	7.40	8.0	A3	7	..	40316b	51	4170	4.3	-8 56	9.0	10.0	Ko	4	..	41229b
2	11240	4.1	-26 39	6.66	7.2	B9	..	0.9	56,137	52	4082	4.3	-12 3	9.5	10.3	G5	1	..	40589b
3	11930	4.1	-29 1	7.5	9.5	Ma	3	..	40611b	53	4441	4.3	-12 37	7.59	8.59	Ko	6	..	40589b
4	12619	4.1	-32 1	10.3	10.1	G5	1	..	39300b	54	4440	4.3	-12 47	10.4	11.4	Ko	1	..	40589b
5	10592	4.1	-46 54	9.7	9.6	B8	4	..	37577b	55	4105	4.3	-22 11	10.2	10.4	F8	3	..	40316b
6	10595	4.1	-48 43	9.2	8.7	A2	3	..	23045b	56	10819	4.3	-34 13	9.9	10.4	G5	1	..	39300b
7	9847	4.1	-51 22	10.6	9.0	B8	3	..	19344b	57	10691	4.3	-44 48	10.3	10.2	Ao	3	..	23764b
8	9316	4.1	-52 57	8.7	8.5	Ao	4	..	19894b	58	10500	4.3	-45 4	6.68	7.3	F5	4	..	43284b
9	7265	4.1	-54 4	9.0	9.2	A2	4	..	19344b	59	7278	4.3	-53 8	9.0	10.0	F8	3	..	19344b
10	7185	4.1	-54 5	6.9	6.9	B9	..	0.7	56,137	60	5221	4.3	-62 56	8.7	9.7	Ko	4	..	21769b
11	7181	4.1	-54 40	9.1	9.1	B8	4	..	19344b	61	3843	4.3	-64 2	8.2	9.3	K2	6	..	21769b
12	7197	4.1	-55 34	8.5	9.7	G5	3	..	21734b	62	3038	4.3	-67 38	9.4	10.6	K5	1	..	39343b
13	7393	4.1	-56 31	8.6	8.6	B8	6	..	37619b	63	2875	4.4	+21 20	8.1	8.4	Fo	3	..	37751i
14	3412	4.1	-64 43	7.8	7.8	B9	10	..	21769b	64	3143	4.4	+8 9	8.9	9.7	G5	2	..	19235b
15	3245	4.1	-65 29	9.0	10.1	K2	2	..	39343b	65	3055	4.4	+2 48	8.7	9.7	Ko	3	..	17083b
16	3037	4.1	-67 32	9.7	9.7	Ao	1	..	39343b	66	3136	4.4	-2 1	9.5	9.9	F5	2	..	41533b
17	2502	4.1	-69 12	9.0	10.0	Ko	1	..	14146b	67	3882	4.4	-3 17	9.0	10.2	K5	3	..	41533b
18	1289	4.1	-75 39	8.7	9.8	K2	1	..	11726b	68	4372	4.4	-6 17	10.2	10.6	F5	3	..	41229b
19	1813	4.2	+54 57	9.6	9.7	A3	2	..	38767i	69	4258	4.4	-10 52	8.2	8.8	Go	6	..	40589b
20	2148	4.2	+46 29	8.8	9.6	G5	3	..	3773oi	70	11936	4.4	-28 4	10.3	10.1	Ko	1	..	40611b
21	2684	4.2	+32 45	9.4	10.2	G5	1	..	38719i	71	12627	4.4	-31 54	10.5	10.1	F8	1	..	39300b
22	2967	4.2	+17 30	6.07	6.07	Ao	..	0.9	56,93	72	10685	4.4	-36 16	9.5	10.2	Ko	2	..	14373b
23	3167	4.2	+1 7	9.8	10.3	F8	1	..	17083b	73	10346	4.4	-39 52	7.88	8.1	F2	8	..	23764b
24	4054	4.2	-4 17	8.8	9.6	G5	2	..	41533b	74	10692	4.4	-44 30	10.3	10.6	Ao	1	..	23764b
25	4370	4.2	-6 28	8.6	9.6	Ko	5	..	41229b	75	7288	4.4	-53 58	8.9	10.0	K2	2	..	19344b
26	4234	4.2	-16 47	9.5	10.6	K2	2	..	40589b	76	5223	4.4	-62 24	9.5	10.7	K5	1	..	21769b
27	12577	4.2	-24 19	6.58	6.6	Ao	..	..	56,137	77	2503	4.4	-69 40	9.4	9.5	A2	3	..	14146b
28	11396	4.2	-25 6	8.50	8.9	Ko	3	..	40316b	78	1097	4.5	+65 35	8.7	9.0	Fo	5	..	37746i
29	11398	4.2	-25 10	9.20	8.9	A3	3	..	40316b	79	1250	4.5	+63 45	9.1	9.7	G	2	..	37746i
30	11400	4.2	-26 2	9.1	9.5	Ko	3	..	40316b	80	1453	4.5	+62 42	9.3	9.9	G	1	..	37746i
31	12902	4.2	-30 16	8.4	8.6	F2	4	..	40611b	81	1639	4.5	+57 52	8.3	8.6	F2	4	..	38767i
32	11472	4.2	-32 29	8.8	9.3	F5	3	..	39300b	82	2302	4.5	+47 30	9.0	9.8	G5	1	..	3773oi
33	10969	4.2	-33 10	8.6	9.3	G5	3	..	39300b	83	2776	4.5	+35 52	8.7	8.8	A2	4	..	38719i
34	10248	4.2	-40 10	9.28	9.2	B8	5	..	23764b	84	3075	4.5	+13 12	7.7	8.0	Fo	5	..	38754i
35	10582	4.2	-43 7	10.1	10.2	B9	4	..	23764b	85	4373	4.5	-6 41	9.8	9.8	Ao	3	..	41229b
36	10585	4.2	-43 15	9.7	9.9	F5	4	..	23764b	86	4214	4.5	-7 27	10.4	11.4	Ko	1	..	41229b
37	10593	4.2	-46 36	9.1	10.2	Ko	3	..	37577b	87	4313	4.5	-9 39	10.0	11.0	Ko	1	..	41229b
38	10375	4.2	-49 56	11.0	9.9	Ao	3	..	37577b	88	4287	4.5	-21 53	6.92	7.0	Ao	9	..	40316b
39	7270	4.2	-54 1	10.0	10.0	B9	2	..	19344b	89	4106	4.5	-22 50	7.48	7.5	A2	8	..	40316b
40	7674	4.2	-57 44	10.0	10.0	B9	2	..	37619b	90	10784	4.5	-35 38	9.4	9.9	Ao	3	..	14373b
41	3247	4.2	-65 48	9.3	9.3	B9	5	..	21785b	91	10251	4.5	-40 51	6.16	7.0	Fo	6	..	43284b
42	2911	4.2	-66 49	8.3	9.3	Ko	6	..	21785b	92	10586	4.5	-43 46	10.3	10.4	A	2	..	23764b
43	2175	4.2	-70 51	9.9	9.9	Ao	2	..	14146b	93	9323	4.5	-52 32	9.2	8.8	Ao	3	..	19894b
44	1861	4.3	+56 21	8.4	8.7	F2	6	..	38767i	94	3250	4.5	-65 53	8.8	8.8	Ao	7	..	21785b
45	2461	4.3	+49 22	7.61	7.67	A2	8	1.4	38766i	95	2912	4.5	-66 25	9.5	9.6	A2	4	..	21785b
46	2928	4.3	+22 29	8.7	9.1	F5	2	..	37751i	96	3039	4.5	-67 55	9.3	9.4	A5	2	..	39343b
47	2887	4.3	+16 5	7.66	8.84	K5	3	3.3	38754i	97	764	4.6	+71 24	8.4	8.5	A2	4	..	37752i
48	3169	4.3	+6 41	6.02	6.80	G5	4	5.10	561b	98	1454	4.6	+61 54	8.2	8.2	B9	6	..	37746i
49	3151	4.3	+5 29	9.1	9.4	Fo	5	..	19235b	99	1794	4.6	+54 38	9.5	10.1	Go	1	..	38767i
50	3135	4.3	-1 23	9.3	10.4	K2	1	..	41533b	100	2543	4.6	+44 24	9.0	9.5	F8	2	..	3773oi

## THE HENRY DRAPER CATALOGUE.

145200

16<sup>h</sup> 4<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2670	4.6	+40 55	7.72	8.72	Ko	4	..	3773oi	51	11476	4.8	-32 23	9.5	9.9	Ao	1	..	3930ob
2	2969	4.6	+17 39	7.64	7.70	A2	4	..	3775ii	52	11094	4.8	-42 33	10.1	10.1	F5	3	..	23764b
3	3123	4.6	+4 7	9.1	9.7	Go	1	..	17083b	53	10592	4.8	-43 27	10.6	10.4	Ao	3	..	23764b
4	3168	4.6	+1 4	6.75	7.82	K2	8	..	17083b	54	9859	4.8	-51 35	7.9	8.4	A5	4	..	19894b
5	3061	4.6	-0 39	10.1	10.9	G5	2	..	41533b	55	9331	4.8	-52 39	8.9	9.6	Ko	2	..	19344b
6	3884	4.6	-3 12	5.41	6.41	Ko	6	..	41735b	56	7684	4.8	-57 26	9.4	9.4	B9	3	..	37619b
7	4215	4.6	-7 59	8.9	9.3	F5	4	..	41229b	57	6454	4.8	-60 23	8.9	9.9	Ko	4	..	21769b
8	4289	4.6	-21 58	10.0	10.7	Go	2	..	40316b	58	926	4.9	+67 15	9.3	9.3	Ao	4	..	37746i
9	12585	4.6	-24 42	8.6	8.6	Fo	5	..	40316b	59	2966	4.9	+10 44	8.5	8.8	Fo	4	..	38754i
10	11407	4.6	-25 36	11.0	9.2	Ao	3	..	40316b	60	4057	4.9	-4 32	9.5	10.5	Ko	2	..	41533b
11	10726	4.6	-37 12	8.2	9.1	F8	5	..	14373b	61	4291	4.9	-21 56	9.2	9.0	Go	5	..	40316b
12	11088	4.6	-42 16	9.3	10.1	G5	3	..	23764b	62	12590	4.9	-24 26	10.8	10.7	Ko	1	..	40316b
13	10599	4.6	-46 32	10.6	11.0	K5	1	..	37577b	63	11411	4.9	-25 16	9.6	8.6	Fo	3	..	40316b
14	10597	4.6	-46 43	10.6	10.8	K5	1	..	37577b	64	11095	4.9	-42 28	10.3	10.1	Ao	3	..	23764b
15	10596	4.6	-46 50	9.3	9.6	F8	4	..	37577b	65	10595	4.9	-43 42	9.7	10.4	K2	3	..	23764b
16	10585	4.6	-47 39	8.5	10.4	K5	2	..	37577b	66	10593	4.9	-43 48	11.6	11.7	A3	2	..	23764b
17	10383	4.6	-50 3	9.96	10.2	B2	2	..	37577b	67	6692	4.9	-58 30	9.8	9.8	B9	2	..	37619b
18	9325	4.6	-52 5	9.7	9.7	Ao	1	..	19894b	68	5599	4.9	-61 19	9.1	9.8	F5	3	..	21769b
19	9326	4.6	-52 46	9.6	9.7	A3	2	..	19344b	69	5225	4.9	-62 45	9.3	9.6	F	1	..	21769b
20	7207	4.6	-55 22	9.7	9.7	Ao	3	..	21734b	70	5224	4.9	-62 48	8.1	8.1	B9	7	..	21769b
21	354	4.7	+84 11	9.8	10.3	F8	2	..	3782oi	71	1710	4.9	-73 53	8.9	9.5	Go	3	..	14146b
22	711	4.7	+72 15	8.2	9.2	Ko	3	..	37752i	72	2464	5.0	+49 10	8.9	9.7	G5	1	..	38766i
23	1816	4.7	+55 42	8.6	8.7	A2	4	..	38767i	73	2932	5.0	+22 6	8.1	9.1	Ko	1	5,2	38771i
24	2741	4.7	+34 0	8.3	9.1	G5	3	..	38719i	74	2926	5.0	+11 7	8.5	8.5	Ao	6	2,3	19235b
25	2758	4.7	+30 40	8.1	9.1	Ko	5	..	38719i	75	4327	5.0	-19 45	9.0	9.6	G5	5	..	40316b
26	3036	4.7	+25 12	8.6	9.4	G5	1	..	38774i	76	4107	5.0	-22 19	10.4	11.5	Ko	1	..	40316b
27	3059	4.7	+19 53	8.80	9.80	Ko	1	..	38771i	77	12591	5.0	-24 51	8.0	9.2	Ko	3	..	40316b
28	2954	4.7	+12 1	6.93	7.27	F2	7	..	38754i	78	12634	5.0	-31 31	8.0	8.1	Ao	6	..	3930ob
29	2925	4.7	+11 50	7.6	8.2	Go	4	..	38754i	79	10830	5.0	-34 42	10.1	10.2	Go	1	..	3930ob
30	3170	4.7	+6 8	8.9	10.0	K2	1	..	19235b	80	10793	5.0	-35 25	9.1	10.0	Ao	3	..	14373b
31	3152	4.7	+5 32	9.0	10.2	K5	1	..	19235b	81	10596	5.0	-43 26	10.6	10.8	Ao	2	..	23764b
32	3134	4.7	+3 12	8.9	10.1	K5	1	..	17083b	82	10392	5.0	-49 5	8.1	9.0	Ko	3	..	23045b
33	4315	4.7	-9 55	9.3	10.4	K2	3	..	41229b	83	3846	5.0	-63 51	8.1	8.1	B9	9	..	21769b
34	4083	4.7	-11 21	9.8	10.3	F8	3	..	40589b	84	3043	5.0	-67 11	9.3	10.1	G5	1	..	39343b
35	4356	4.7	-13 25	9.3	9.7	F5	3	..	40589b	85	3042	5.0	-67 22	9.5	9.9	F5	2	..	39343b
36	4290	4.7	-21 23	10.0	10.4	A2	3	..	40316b	86	2777	5.1	+35 49	7.62	7.76	A5	6	0,7	38504i
37	10349	4.7	-39 13	9.5	9.5	Ao	4	..	23764b	87	2972	5.1	+17 3	8.5	9.5	Ko	2	..	38771i
38	10600	4.7	-46 29	11.0	10.6	Ao	1	..	37577b	88	2889	5.1	+16 6	8.4	9.0	Go	2	..	38782i
39	10388	4.7	-49 18	10.3	9.9	Ko	2	..	37577b	89	3173	5.1	+6 48	8.5	8.8	F2	6	..	19235b
40	9856	4.7	-51 54	9.5	8.7	Ao	3	..	19894b	90	3064	5.1	-0 29	9.8	10.4	G	2	..	41533b
41	7681	4.7	-57 49	9.7	9.7	Ao	2	..	37619b	91	4120	5.1	-2 9	9.8	10.8	Ko	2	R	41533b
42	6652	4.7	-59 46	8.5	9.2	A2	7	..	21769b	92	3886	5.1	-3 23	9.5	10.1	Go	2	..	41533b
43	3040	4.7	-67 52	8.6	9.4	G5	2	..	39343b	93	4357	5.1	-13 14	9.8	10.4	Go	1	..	40589b
44	2504	4.7	-69 11	8.8	10.0	K5	2	..	14146b	94	4423	5.1	-20 8	9.00	10.4	K5	2	..	40316b
45	2303	4.8	+47 31	9.3	9.7	F5	2	..	3773oi	95	4424	5.1	-21 1	10.2	10.4	Go	1	..	40316b
46	2374	4.8	+45 39	7.35	8.35	Ko	6	0,4	3773oi	96	4108	5.1	-22 49	10.7	11.5	Ko	1	..	40316b
47	3137	4.8	-1 21	7.7	8.0	F2	6	..	41533b	97	11415	5.1	-25 9	9.35	8.9	Fo	2	..	40316b
48	4422	4.8	-20 26	9.8	11.0	K5	1	..	40316b	98	12636	5.1	-31 57	10.8	10.4	Go	1	..	3930ob
49	12748	4.8	-23 10	10.5	10.4	F5	2	..	40316b	99	10980	5.1	-33 22	9.5	9.9	Ko	2	..	3930ob
50	12343	4.8	-29 9	5.16	7.0	Ko	..	0,10	56,137	100	9867	5.1	-51 20	11.0	9.9	A5	1	..	19344b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

145300

16<sup>h</sup> 5<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	9864	5.1	-51 55	10.1	9.0	B9	2	..	19894b	51	11246	5.4	-26 29	9.6	8.9	A2	5	..	40611b
2	9337	5.1	-52 57	9.2	9.9	G5	2	..	19344b	52	11248	5.4	-26 42	9.1	8.6	F8	4	..	40611b
3	7348	5.1	-53 21	10.0	10.0	Ao	2	..	19894b	53	11247	5.4	-26 53	6.77	7.1	B8	8	..	40611b
4	7350	5.1	-53 48	8.6	8.8	B5	5	..	19344b	54	10983	5.4	-33 15	8.1	9.5	Ko	4	..	39300b
5	7408	5.1	-56 49	10.1	10.2	A2	2	..	37619b	55	10728	5.4	-37 57	8.8	10.2	A5	2	..	14373b
6	5600	5.1	-61 59	9.8	10.3	F8	2	..	21769b	56	10262	5.4	-40 53	10.5	10.4	B9	2	..	23764b
7	3253	5.1	-65 52	9.4	9.4	Ao	6	..	21785b	57	11100	5.4	-42 7	7.9	8.3	Fo	8	..	23764b
8	1149	5.1	-76 53	8.0	8.0	Ao	5	..	42633b	58	10607	5.4	-43 23	9.1	8.7	B9	9	R	23764b
9	863	5.2	+70 32	6.74	6.74	Ao	8	..	37752i	59	10609	5.4	-43 23	9.1	8.7	B9	9	R	23764b
10	1098	5.2	+64 57	7.30	8.30	Ko	7	..	37746i	60	10606	5.4	-48 46	10.3	9.7	B9	3	..	37577i
11	1567	5.2	+61 40	9.3	9.3	Ao	3	..	37746i	61	7229	5.4	-55 17	5.96	6.9	Fo	..	5,7	56,137
12	2971	5.2	+40 19	8.42	8.76	F2	3	..	37730i	62	7414	5.4	-56 50	9.0	10.0	K2	2	..	37619b
13	2591	5.2	+27 39	7.93	8.21	Fo	5	0,5-	38774i	63	7687	5.4	-57 13	9.6	9.7	A2	3	..	37619b
14	3125	5.2	+18 42	8.44	9.51	K2	1	..	38771i	64	2176	5.4	-70 17	8.6	8.6	B9	4	..	14146b
15	3147	5.2	+8 16	9.8	10.4	Go	1	..	19235b	65	1966	5.4	-72 0	9.8	9.9	A2	3	..	14146b
16	3170	5.2	+1 52	6.57	7.57	Ko	9	..	17083b	66	1092	5.4	-78 27	4.78	7.2	Mb	..	0,8 R	28,211
17	3140	5.2	-1 48	9.1	10.2	K2	2	..	41533b	67	151	5.5	+87 45	9.2	9.7	F8	2	..	37793i
18	4217	5.2	-7 59	10.0	10.6	Go	2	..	41229b	68	707	5.5	+73 25	6.95	7.37	F5	8	..	37752i
19	4319	5.2	-9 13	10.4	11.4	Ko	2	..	41229b	69	863	5.5	+68 46	8.4	9.4	Ko	2	..	37752i
20	12914	5.2	-30 28	8.0	8.4	Ao	7	..	39300b	70	1864	5.5	+56 31	8.8	10.0	K5	2	..	38767i
21	10601	5.2	-43 37	10.3	10.5	F5	3	..	23764b	71	1943	5.5	+52 36	9.6	10.2	Go	2	..	38766i
22	10600	5.2	-43 42	11.0	11.0	G5	1	..	23764b	72	2742	5.5	+34 15	8.3	9.3	Ko	3	..	38719i
23	9341	5.2	-52 22	9.2	8.8	Fo	2	..	19894b	73	2759	5.5	+30 7	9.1	10.3	K5	3	3,1	38719i
24	7226	5.2	-54 6	7.7	8.2	A3	..	2,8	56,137	74	2593	5.5	+27 14	8.1	9.2	K2	3	..	38774i
25	5227	5.2	-62 44	8.5	9.7	K5	2	..	21769b	75	4508	5.5	-17 51	8.6	9.8	K5	2	..	11483b
26	3044	5.2	-67 48	9.2	9.2	Ao	3	..	39343b	76	12596	5.5	-24 30	9.6	9.8	Ko	3	..	40316b
27	804	5.2	-80 30	7.8	8.2	F5	8	..	13442b	77	11249	5.5	-26 49	8.4	8.3	Go	5	..	40611b
28	2699	5.3	+36 45	4.94	5.94	Ko	..	0, R	56,93	78	12643	5.5	-32 0	8.6	8.9	G5	5	..	39300b
29	4318	5.3	-10 0	10.2	11.0	G5	2	..	41229b	79	11102	5.5	-42 16	10.6	10.1	A2	2	..	23764b
30	4262	5.3	-10 17	10.8	11.1	F	2	..	41229b	80	10398	5.5	-49 47	11.6	10.4	A2	2	..	37577b
31	4362	5.3	-14 7	8.6	9.4	G5	6	..	40589b	81	10228	5.5	-50 48	8.5	8.4	G5	4	..	19894b
32	4292	5.3	-21 11	10.7	10.7	F8	1	..	40316b	82	9877	5.5	-51 12	11.6	9.9	K2	1	..	19344b
33	4110	5.3	-22 56	9.8	8.9	A5	4	..	40316b	83	9352	5.5	-52 16	8.6	9.4	G5	1	..	19894b
34	11244	5.3	-26 12	9.1	9.5	Ko	3	..	40316b	84	7413	5.5	-53 25	5.98	7.9	Ma	..	5,7	56,137
35	12637	5.3	-31 32	9.6	9.5	A3	3	..	39300b	85	7241	5.5	-54 52	8.8	9.1	Ao	6	1,5	19344b
36	10833	5.3	-34 13	8.9	10.2	G5	2	..	39300b	86	5229	5.5	-62 31	8.4	8.4	B9	8	..	21769b
37	10800	5.3	-35 20	8.2	9.0	F5	6	..	14373b	87	3046	5.5	-67 22	9.3	10.5	K5	1	..	39343b
38	10259	5.3	-40 48	10.8	10.4	Fo	2	..	23764b	88	1093	5.5	-78 25	5.22	7.5	K5	..	R	28,211
39	10260	5.3	-40 56	10.5	10.4	A3	2	..	23764b	89	2376	5.6	+45 12	4.26	4.26	B9p	..	R	2765c
40	10604	5.3	-43 58	10.1	10.8	Ao	2	..	23764b	90	4294	5.6	-21 20	10.7	10.7	Go	2	..	40316b
41	10602	5.3	-46 40	10.3	10.8	K5	2	..	37577b	91	4295	5.6	-21 41	10.7	11.5	G5	1	..	40316b
42	7411	5.3	-56 9	8.2	8.2	F8	6	..	37619b	92	10267	5.6	-40 45	10.1	10.7	K5	1	..	23764b
43	6693	5.3	-58 53	8.6	9.5	Ko	5	..	37619b	93	10563	5.6	-41 4	9.9	9.8	A3	3	..	23764b
44	602	5.3	-83 14	8.1	8.7	Go	5	..	13442b	94	10593	5.6	-47 49	10.6	10.4	B8	2	..	37577b
45	1863	5.4	+56 33	9.3	10.5	K5	1	..	38767i	95	10399	5.6	-49 11	11.0	10.4	A2	1	..	37577b
46	3065	5.4	-0 22	9.3	10.5	K5	1	..	41533b	96	9880	5.6	-51 20	10.6	9.6	B9	2	..	19344b
47	4061	5.4	-4 28	9.0	9.3	Fo	4	..	41533b	97	7245	5.6	-54 22	5.09	7.4	Ko	..	R	56,137
48	4218	5.4	-8 2	7.8	7.9	A3	7	..	41229b	98	7420	5.6	-56 48	9.1	9.5	A3	3	..	37619b
49	4086	5.4	-11 48	9.0	9.5	F8	3	..	40589b	99	7688	5.6	-57 49	9.7	9.7	Ao	4	..	37619b
50	4361	5.4	-13 43	8.2	9.2	Ko	6	..	40589b	100	6656	5.6	-59 53	8.3	8.9	F5	7	..	21769b

## THE HENRY DRAPER CATALOGUE.

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16<sup>h</sup> 5<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	896	5.6	-79 35	8.7	8.8	A <sub>3</sub>	7	..	43458b	51	6460	5.9	-60 31	9.1	9.2	Ao	7	..	21769b
2	464	5.7	+82 59	9.3	9.9	G	2	..	37813i	52	5605	5.9	-61 29	9.8	9.8	Ao	1	..	21769b
3	2760	5.7	+30 7	8.8	9.8	Ko	3	2,1	38719i	53	5232	5.9	-62 26	9.5	9.6	A <sub>5</sub>	3	..	21769b
4	2791	5.7	+26 16	7.7	8.5	G <sub>5</sub>	3	..	38774i	54	864	6.0	+68 4	5.40	5.40	Ao	..	..	56,93
5	3108	5.7	+7 13	8.9	9.2	F <sub>2</sub>	3	..	19235b	55	1944	6.0	+51 55	8.8	9.8	Ko	2	..	38766i
6	3058	5.7	+2 53	7.9	8.9	Ko	6	..	17083b	56	2761	6.0	+30 27	9.5	10.5	Ko	2	..	38719i
7	3066	5.7	-0 17	8.9	9.3	F <sub>5</sub>	3	..	41533b	57	2595	6.0	+27 1	6.68	7.68	Ko	7	..	38774i
8	10836	5.7	-27 17	8.0	8.3	A <sub>5</sub>	7	..	40611b	58	3039	6.0	+25 45	7.48	8.48	Ko	6	..	38774i
9	10517	5.7	-45 46	9.9	10.2	Go	2	..	37577b	59	3039a	6.0	+25 20	var.	var.	Md	..	R	M
10	10609	5.7	-48 30	8.1	7.9	Ao	5	..	20092b	60	2879	6.0	+21 24	8.9	9.9	Ko	1	..	38771i
11	10608	5.7	-48 43	10.6	10.5	Ao	2	..	37577b	61	3148	6.0	+8 3	9.0	10.4	Ma	2	..	19235b
12	10402	5.7	-49 37	7.4	7.3	Ao	4	..	3930b	62	3176	6.0	+6 38	8.7	9.7	Ko	3	..	19235b
13	10230	5.7	-50 30	9.3	9.4	G <sub>5</sub>	4	..	37577b	63	3156	6.0	+5 37	8.7	9.0	Fo	6	..	19235b
14	9884	5.7	-51 19	9.7	9.9	K <sub>2</sub>	1	..	19344b	64	3068	6.0	-0 51	8.4	9.0	Go	5	..	41533b
15	7442	5.7	-53 52	9.7	9.5	B <sub>3</sub>	3	R	19344b	65	3888	6.0	-3 43	8.4	9.6	K <sub>5</sub>	3	..	41533b
16	7248	5.7	-54 59	10.2	10.2	Ao	2	..	19344b	66	4264	6.0	-11 0	8.6	8.9	F <sub>2</sub>	5	..	40589b
17	7690	5.7	-57 16	7.3	8.2	G <sub>5</sub>	7	..	37619b	67	4429	6.0	-20 51	9.5	9.3	Fo	5	..	40316b
18	6696	5.7	-58 36	9.0	9.5	G <sub>5</sub>	4	..	37619b	68	4113	6.0	-22 17	8.4	8.4	A <sub>2</sub>	7	..	40316b
19	6659	5.7	-59 18	8.6	8.9	Ao	8	..	21769b	69	11961	6.0	-28 44	8.8	8.4	Fo	5	..	40611b
20	1967	5.7	-71 29	9.2	9.2	Ao	5	..	14146b	70	10992	6.0	-33 45	9.7	10.4	G <sub>5</sub>	1	..	39300b
21	1968	5.7	-71 39	7.9	7.9	Ao	8	..	14146b	71	10614	6.0	-43 29	9.2	10.6	K <sub>5</sub>	1	..	23764b
22	251	5.7	-87 30	9.7	10.7	Ko	1	..	22980b	72	10607	6.0	-46 32	9.9	10.2	Ko	3	..	37577b
23	1797	5.8	+54 48	9.21	10.28	K <sub>2</sub>	1	..	38767i	73	10606	6.0	-46 38	11.6	10.6	Ao	1	..	37577b
24	2377	5.8	+45 36	8.4	8.8	F <sub>5</sub>	5	0,2	37730i	74	7240	6.0	-55 29	8.4	8.5	F <sub>8</sub>	6	0,6	81734b
25	3141	5.8	-1 42	9.5	10.5	Ko	1	..	41533b	75	1456	6.1	+62 32	8.8	8.9	A <sub>3</sub>	4	..	37746i
26	4222	5.8	-7 11	9.8	10.2	F <sub>5</sub>	2	..	41229b	76	1568	6.1	+61 3	9.1	9.7	G	2	..	37746i
27	4238	5.8	-17 1	10.2	10.2	A	2	..	40589b	77	2060	6.1	+51 8	8.8	9.4	Go	2	..	38766i
28	11424	5.8	-25 37	7.70	8.6	G <sub>5</sub>	7	..	40316b	78	3141	6.1	+3 11	8.6	9.2	Go	3	..	17083b
29	12353	5.8	-29 37	9.4	10.4	G <sub>5</sub>	1	..	40611b	79	4176	6.1	-8 14	9.8	9.9	A <sub>2</sub>	3	..	41229b
30	10605	5.8	-46 33	10.3	10.8	Ma	1	..	37577b	80	4367	6.1	-13 43	9.8	11.2	Ma	1	..	40589b
31	10233	5.8	-50 40	9.0	8.7	K <sub>2</sub>	3	..	23045b	81	11254	6.1	-26 13	9.4	9.3	Go	3	..	40316b
32	3416	5.8	-64 51	9.1	9.1	Ao	4	..	42473b	82	10841	6.1	-27 40	4.70	4.53	B <sub>3</sub>	..	R	56,93
33	1251	5.9	+63 0	8.6	9.0	F <sub>5</sub>	4	..	37746i	83	11962	6.1	-28 9	5.70	6.5	B <sub>9</sub>	..	R	56,137
34	2059	5.9	+51 26	8.8	9.8	Ko	1	..	38766i	84	12930	6.1	-30 41	10.5	10.4	F <sub>8</sub>	1	..	39300b
35	2673	5.9	+41 22	6.85	7.27	F <sub>5</sub>	8	..	37730i	85	10567	6.1	-41 38	8.8	10.1	Ko	4	..	23764b
36	2968	5.9	+10 18	7.40	7.82	F <sub>5</sub>	5	..	38754i	86	10519	6.1	-45 33	8.3	9.0	F <sub>5</sub>	7	0,2	23764b
37	3465	5.9	+0 0	9.8	10.4	Go	2	..	41533b	87	10612	6.1	-48 39	10.1	9.6	Ao	3	..	37577b
38	4087	5.9	-11 30	9.0	9.0	Ao	4	..	40589b	88	10239	6.1	-50 20	11.6	9.4	B <sub>8</sub>	3	..	37577b
39	4445	5.9	-12 12	8.9	10.1	K <sub>5</sub>	3	..	40589b	89	10238	6.1	-51 1	11.6	9.9	Ao	2	..	19344b
40	4428	5.9	-20 48	9.0	10.4	K <sub>5</sub>	2	..	40316b	90	9892	6.1	-51 37	11.0	9.3	B <sub>9</sub>	2	..	19344b
41	11425	5.9	-25 10	9.45	9.5	Go	3	..	40316b	91	9890	6.1	-51 49	11.0	9.9	B <sub>9</sub>	1	..	19344b
42	12925	5.9	-30 37	10.1	10.4	Go	1	..	39300b	92	9893	6.1	-51 56	10.1	9.3	B <sub>2</sub>	3	..	19344b
43	11492	5.9	-32 8	10.1	9.9	Ao	2	..	39300b	93	7434	6.1	-57 2	10.3	10.3	Ao	2	..	37619b
44	10729	5.9	-37 51	9.5	10.4	K <sub>2</sub>	1	..	14373b	94	6700	6.1	-58 27	8.5	10.4	Ma	1	..	37619b
45	10355	5.9	-39 30	7.7	8.3	F <sub>2</sub>	8	..	23764b	95	2179	6.1	-70 14	8.43	8.5	A <sub>2</sub>	6	..	14146b
46	11109	5.9	-42 32	8.6	9.2	F <sub>8</sub>	6	..	23764b	96	1969	6.1	-71 10	9.4	9.4	Ao	4	..	14146b
47	10406	5.9	-49 18	9.3	9.6	G <sub>5</sub>	2	..	23045b	97	2378	6.2	+44 58	8.17	9.24	K <sub>2</sub>	1	..	37730i
48	9888	5.9	-51 22	8.6	8.7	F <sub>8</sub>	4	..	19344b	98	2731	6.2	+38 44	8.9	9.7	G <sub>5</sub>	1	..	38718i
49	7691	5.9	-57 47	7.7	8.2	Ko	7	..	37619b	99	4252	6.2	-5 19	9.5	10.3	G <sub>5</sub>	1	..	41533b
50	6697	5.9	-58 47	9.0	9.8	Ao	4	..	37619b	100	4368	6.2	-13 50	10.0	10.8	G <sub>5</sub>	1	..	40589b

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16<sup>h</sup> 6<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4332	6.2	-19 12	6.49	6.49	A		R	56,93	51	4265	6.5	-10 22	9.0	9.5	F8	5	..	40589b
2	4333	6.2	-19 12	4.29	4.12	B3				52	4266	6.5	-10 30	9.2	10.3	K2	2	..	40589b
3	4297	6.2	-21 7	9.5	10.1	A3	3	..	40316b	53	4243	6.5	-16 25	10.0	10.6	Go	2	..	40589b
4	4114	6.2	-22 59	9.8	9.3	Fo	3	..	40316b	54	4334	6.5	-19 19	7.66	7.5	B9	8	..	11483b
5	12769	6.2	-23 40	8.4	8.0	Ao	7	..	40316b	55	4115	6.5	-22 23	10.9	11.5	Ko	1	..	40316b
6	12602	6.2	-24 50	11.0	9.6	Ao	3	..	40316b	56	10846	6.5	-28 4	9.3	8.4	B8	4	..	40611b
7	12932	6.2	-30 36	9.4	10.6	K5	1	..	39300b	57	12362	6.5	-29 53	8.0	8.6	Fo	6	..	40611b
8	11497	6.2	-32 10	8.8	9.9	F8	1	..	39300b	58	10997	6.5	-33 34	9.1	9.9	G5	2	..	39300b
9	10568	6.2	-41 22	10.5	10.7	F8	1	R	23764b	59	11113	6.5	-43 1	10.6	10.7	Ao	2	..	23764b
10	10616	6.2	-43 49	7.2	8.1	Fo	9	..	23764b	60	10522	6.5	-45 34	8.7	9.0	F5	6	..	23764b
11	5235	6.2	-62 10	9.4	9.9	F8	3	..	21769b	61	10610	6.5	-46 42	11.0	10.4	A2	1	..	37577b
12	2639	6.2	-68 30	8.3	9.4	K2	2	..	42473b	62	10598	6.5	-47 58	9.9	10.8	Ko	2	..	37577b
13	2568	6.3	+43 23	8.4	9.2	G5	2	..	37730i	63	10617	6.5	-48 29	9.7	9.3	B9	4	..	37577b
14	2972	6.3	+40 23	8.1	8.7	Go	3	..	37730i	64	10418	6.5	-49 21	9.9	9.7	Ao	2	..	23045b
15	2963	6.3	+15 26	8.5	9.5	Ko	2	..	38732i	65	7697	6.5	-57 46	9.5	9.5	B8	3	..	37619b
16	3110	6.3	+7 3	9.8	9.9	A5	1	..	19235b	66	6666	6.5	-59 26	7.5	9.0	G5	7	..	21769b
17	4242	6.3	-16 33	9.5	10.7	K5	2	..	40589b	67	2258	6.6	+50 3	8.97	9.47	F8	2	..	38766i
18	4511	6.3	-17 58	7.44	8.00	Go	7	..	11483b	68	3112	6.6	+7 44	8.0	9.1	K2	5	..	19235b
19	4243	6.3	-18 48	8.3	8.3	B9	6	..	11483b	69	4377	6.6	-6 30	9.5	10.3	G5	2	..	41229b
20	12361	6.3	-29 44	10.1	10.4	Go	2	..	40611b	70	4324	6.6	-9 48	4.91	4.97	A2	..	R	56,93
21	10614	6.3	-48 16	10.1	9.7	B3	2	..	37577b	71	11260	6.6	-26 6	9.6	9.3	F2	3	..	40316b
22	10410	6.3	-49 38	8.5	8.7	B9	2	..	20092b	72	11259	6.6	-26 37	9.8	9.2	Ao	3	..	40316b
23	7484	6.3	-53 55	8.2	8.6	Go	8	..	19344b	73	10851	6.6	-27 52	8.6	8.1	F2	7	..	40611b
24	7244	6.3	-55 5	9.4	9.4	Ao	4	..	19344b	74	12936	6.6	-30 32	10.1	9.8	Fo	3	..	39300b
25	7245	6.3	-56 2	9.0	9.1	Go	3	2,3	37619b	75	10917	6.6	-39 3	9.9	10.3	G5	2	..	23764b
26	6665	6.3	-59 32	8.5	10.1	K5	4	..	37619b	76	10600	6.6	-47 30	10.1	10.4	Go	2	..	37577b
27	6465	6.3	-61 1	8.4	9.2	F5	4	R	21769b	77	10420	6.6	-49 22	11.0	11.2	Mb	..	..	M
28	6465	6.3	-61 1	8.4	9.2	A3	4	..	21769b	78	10419	6.6	-49 30	11.6	9.9	Ao	1	..	23045b
29	5608	6.3	-61 57	9.5	9.8	Fo	4	..	21769b	79	9904	6.6	-51 12	10.6	9.3	B5	3	..	19344b
30	2180	6.3	-70 31	9.3	9.4	A5	3	..	14146b	80	9377	6.6	-52 37	8.3	8.7	F5	5	..	19894b
31	2061	6.4	+51 0	8.2	8.5	F2	6	3,4	38766i	81	7257	6.6	-55 11	8.5	9.2	Ko	4	..	19344b
32	2257	6.4	+50 26	6.96	7.96	Ko	8	5,6	38766i	82	7700	6.6	-57 46	9.5	10.6	K2	1	..	37619b
33	2957	6.4	+39 4	9.5	10.1	Go	1	..	38718i	83	6668	6.6	-59 50	8.5	9.8	Ko	3	..	21769b
34	12604	6.4	-24 51	9.4	9.8	Ko	2	..	40316b	84	6467	6.6	-60 32	9.2	9.2	B8	7	..	21769b
35	12661	6.4	-31 20	10.1	9.9	A5	2	..	39300b	85	1970	6.6	-71 25	7.6	7.6	B9	9	..	14146b
36	10851	6.4	-34 14	10.1	10.0	Go	2	..	39300b	86	2679	6.7	+42 6	9.2	9.8	Go	2	..	37730i
37	10850	6.4	-34 24	10.3	10.2	B	2	..	39300b	87	2825	6.7	+31 14	8.9	10.1	K5	3	..	38719i
38	10815	6.4	-35 51	8.3	9.0	F8	5	..	14373b	88	3132	6.7	+18 12	7.94	7.94	Ao	4	..	38771i
39	10699	6.4	-36 27	9.5	10.2	F5	2	..	14373b	89	2971	6.7	+9 58	6.46	6.54	A3	7	..	38754i
40	10618	6.4	-43 7	10.6	11.0	K2	1	..	23764b	90	3467	6.7	+0 10	10.1	10.6	F8	1	..	41533b
41	10616	6.4	-48 39	9.5	8.5	Ao	2	..	20092b	91	4378	6.7	-6 37	10.4	11.4	Ko	1	..	41229b
42	9899	6.4	-51 39	7.9	8.7	K5	4	..	19344b	92	4226	6.7	-7 13	10.4	10.9	F8	2	..	41229b
43	5236	6.4	-63 0	8.7	9.9	K5	3	..	21769b	93	4370	6.7	-13 28	8.9	10.0	K2	2	..	40589b
44	3854	6.4	-63 26	4.03	4.59	Go	..	R	28,211	94	4364	6.7	-14 33	9.5	10.1	Go	1	..	40589b
45	3257	6.4	-65 58	9.6	9.6	Ao	4	..	42473b	95	4244	6.7	-17 5	9.8	9.8	A	2	..	40589b
46	2182	6.4	-70 24	8.9	8.9	Ao	3	..	14146b	96	11001	6.7	-34 3	7.54	9.2	Ma	4	..	14373b
47	2181	6.4	-70 44	7.2	7.3	A2	10	..	14146b	97	10625	6.7	-48 41	7.3	7.5	K2	5	..	20092b
48	329	6.4	-86 55	9.5	10.9	Mb	2	..	22980b	98	10252	6.7	-50 31	8.7	8.4	Go	6	0,3	37577b
49	2897	6.5	+16 35	7.9	8.3	F5	3	..	38771i	99	9380	6.7	-52 59	9.6	9.7	A3	1	..	19344b
50	3069	6.5	-0 34	8.9	10.1	K5	2	..	41533b	100	7506	6.7	-53 18	8.7	8.8	B8	3	..	19894b

## THE HENRY DRAPER CATALOGUE.

145600

16<sup>h</sup> 6<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	7447	6.7	-56 16	9.2	9.7	Ao	3	..	37619b	51	3173	7.0	+ 0 55	9.54	10.54	Ko	1	..	17083b
2	5239	6.7	-62 50	9.7	10.1	F5	2	..	21769b	52	3073	7.0	- 1 3	9.5	10.7	K5	1	..	41533b
3	1459	6.8	+62 30	8.6	10.0	Mb	2	..	37746i	53	4182	7.0	- 8 30	10.2	11.4	K5	1	..	41229b
4	1848	6.8	+53 10	8.2	9.3	K2	5	..	38766i	54	4268	7.0	-10 14	8.66	9.84	K5	3	..	40589b
5	2976	6.8	+40 48	7.55	7.97	F5	5	..	37730i	55	4116	7.0	-23 5	9.5	9.8	Go	3	..	40316b
6	3158	6.8	+ 5 10	9.1	10.3	K5	1	..	19235b	56	11437	7.0	-25 40	10.5	10.1	K5	1	..	40316b
7	4180	6.8	- 8 17	5.49	5.57	A3	..	1,8	56,93	57	12373	7.0	-29 23	8.4	8.9	Ao	5	..	40611b
8	4373	6.8	-13 44	9.5	10.5	Ko	2	..	40589b	58	12671	7.0	-31 52	8.2	8.3	F5	7	..	39300b
9	4365	6.8	-14 32	9.3	10.7	Ma	1	..	40589b	59	11007	7.0	-33 20	8.8	9.3	F8	3	..	39300b
10	4433	6.8	-20 46	10.4	11.5	K2	1	..	40316b	60	11006	7.0	-33 45	9.5	10.1	A2	2	..	3998b
11	4434	6.8	-20 56	9.5	10.1	G5	3	..	40316b	61	10704	7.0	-36 12	10.3	10.8	Go	1	..	14373b
12	4299	6.8	-21 35	10.7	10.7	F8	2	..	40316b	62	10525	7.0	-45 37	8.5	10.2	K5	2	..	23764b
13	12937	6.8	-30 16	10.1	9.8	F2	2	..	40611b	63	9914	7.0	-51 14	11.0	9.9	Go	1	..	19344b
14	10572	6.8	-41 6	9.1	9.3	B8	4	..	23764b	64	9393	7.0	-52 5	8.0	8.4	B2	5	..	19344b
15	10258	6.8	-50 26	11.0	10.1	Ko	1	..	37577b	65	7272	7.0	-55 25	8.6	9.1	F8	4	0,4	21734b
16	7449	6.8	-56 57	9.8	10.6	G5	2	..	37619b	66	7457	7.0	-56 7	7.2	8.3	Go	6	0,8	19640b
17	6702	6.8	-58 41	9.8	9.9	A2	2	..	37619b	67	7711	7.0	-57 31	9.4	9.4	Ao	4	..	37619b
18	3423	6.8	-64 5	8.5	9.7	K5	2	..	19902b	68	5241	7.0	-62 11	9.2	10.4	K5	2	..	21769b
19	1920	6.8	-72 47	6.92	6.3	Ao	7	..	35947b	69	5242	7.0	-62 28	10.3	10.3	Ao	3	..	21769b
20	1532	6.8	-74 49	8.9	9.0	A2	2	..	11726b	70	3858	7.0	-64 0	9.3	9.4	A5	2	..	19902b
21	682	6.8	-82 19	6.95	7.8	Ko	8	..	13442b	71	3424	7.0	-64 50	8.9	9.7	G5	2	..	42473b
22	616	6.9	+77 4	5.60	5.60	Ao	9	..	37240i	72	2641	7.0	-68 34	8.5	8.5	Ao	5	..	42473b
23	1647	6.9	+57 7	8.2	8.3	A2	6	..	38767i	73	1921	7.0	-72 42	7.9	8.9	Ko	5	..	14146b
24	1865	6.9	+56 11	8.8	9.4	Go	3	..	38767i	74	1622	7.1	+58 12	6.31	6.31	Ao	10	..	38767i
25	2548	6.9	+44 20	9.0	9.8	G5	1	..	38718i	75	2549	7.1	+44 5	6.54	7.54	Ko	8	..	37730i
26	2784	6.9	+29 23	9.1	10.5	Ma	..	..	M	76	2597	7.1	+27 10	7.37	7.79	F5	5	..	38774i
27	2797	6.9	+26 40	8.2	8.7	F8	3	..	38774i	77	2977	7.1	+24 4	8.7	9.7	Ko	1	..	38774i
28	3468	6.9	+ 0 5	9.3	10.5	K5	1	..	41533b	78	2882	7.1	+21 11	8.5	9.5	Ko	2	..	38771i
29	4267	6.9	-10 56	8.2	8.3	A5	6	..	40589b	79	2974	7.1	+10 4	8.27	9.34	K2	4	..	19235b
30	4374	6.9	-13 26	9.8	10.8	Ko	1	..	40589b	80	3469	7.1	+ 0 10	8.1	8.6	F8	7	..	17083b
31	4337	6.9	-19 14	7.50	7.5	B9	8	..	11483b	81	4380	7.1	- 6 17	10.7	10.7	Ao	2	..	41229b
32	11004	6.9	-33 35	10.1	10.1	B9	1	..	39300b	82	4368	7.1	-15 5	9.36	9.42	A2	3	..	40589b
33	10860	6.9	-34 20	10.3	10.5	G5	1	..	39300b	83	12672	7.1	-31 15	10.3	10.6	Ko	1	..	39300b
34	10524	6.9	-45 7	9.42	9.6	Ao	4	..	23764b	84	10429	7.1	-49 33	11.6	9.9	A5	2	..	37577b
35	10604	6.9	-47 47	9.7	10.2	Go	3	..	37577b	85	9915	7.1	-51 52	10.6	9.6	A3	3	..	19344b
36	10424	6.9	-49 50	8.3	8.4	Ao	5	..	20092b	86	9395	7.1	-52 53	8.9	9.7	G5	2	..	19344b
37	10259	6.9	-50 56	10.1	9.1	B8	3	..	19344b	87	7276	7.1	-55 41	8.7	8.6	Ao	6	2,5	19344b
38	9391	6.9	-52 24	9.1	9.7	Go	1	..	19344b	88	5243	7.1	-62 36	9.3	10.3	Ko	4	..	21769b
39	7508	6.9	-53 46	9.6	9.7	A2	4	..	19344b	89	3054	7.1	-67 41	6.18	6.1	A3	..	..	56,137
40	7454	6.9	-56 38	9.0	10.0	Ko	1	..	37619b	90	2185	7.1	-70 31	8.9	8.9	Ao	4	..	14146b
41	6703	6.9	-58 36	10.6	10.6	Ao	1	..	37619b	91	1099	7.2	+65 6	8.8	9.8	Ko	2	..	37746i
42	3052	6.9	-67 50	8.8	9.2	F5	3	..	42473b	92	1112	7.2	+64 32	9.0	9.3	Fo	4	..	37746i
43	1095	6.9	-78 54	9.3	10.5	K5	1	..	42633b	93	1460	7.2	+62 18	8.8	9.3	F8	3	..	37746i
44	2688	7.0	+32 16	7.9	8.0	A2	8	..	38719i	94	1867	7.2	+56 6	6.59	7.59	Ko	8	..	38767i
45	2826	7.0	+31 13	7.8	8.6	G5	7	..	38719i	95	1849	7.2	+53 28	10.3	11.4	K2	1	..	38766i
46	2983	7.0	+17 14	7.9	9.1	K5	2	..	38771i	96	2958	7.2	+39 24	8.5	9.5	Ko	1	..	38718i
47	2982	7.0	+16 56	5.90	5.90	Ao	..	R	56,93	97	3151	7.2	+ 8 0	8.6	9.7	K2	2	..	19235b
48	2964	7.0	+15 23	8.5	9.3	G5	2	..	38782i	98	4266	7.2	-15 45	8.8	9.6	G5	2	..	40589b
49	2966	7.0	+12 20	Neb.	Neb.	Pc	..	R	76,22	99	11514	7.2	-33 3	10.8	10.7	G5	1	..	39300b
50	3162	7.0	+ 8 58	9.0	9.6	Go	3	..	19235b	100	10825	7.2	-35 32	8.8	9.3	Ao	5	..	14373b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

145700

16<sup>h</sup> 7<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11120	7.2	-42 8	10.3	10.4	F2	3	..	23764b	51	12618	7.5	-24 36	10.5	10.1	F8	1	..	40316b
2	10631	7.2	-48 4	9.0	9.6	Ko	3	..	37577b	52	12947	7.5	-30 13	9.43	9.2	Fo	4	..	40611b
3	9917	7.2	-51 33	9.9	9.0	B9	5	..	19344b	53	11519	7.5	-32 49	8.9	11.0	K5	1	..	39300b
4	9399	7.2	-52 4	8.6	9.6	Ko	3	..	19344b	54	10830	7.5	-35 30	8.6	10.5	Ko	1	..	39300b
5	9400	7.2	-52 39	8.4	7.9	B9	7	..	19894b	55	10578	7.5	-41 31	8.9	10.3	K2	2	..	23764b
6	5615	7.2	-61 38	9.5	9.6	A3	1	..	21769b	56	11125	7.5	-42 34	10.3	10.4	A2	2	..	23764b
7	3055	7.2	-67 23	8.5	8.5	Ao	9	..	42473b	57	11126	7.5	-42 56	9.9	10.3	Ko	2	..	23764b
8	1205	7.2	-77 27	8.4	9.6	K5	1	..	42633b	58	10627	7.5	-43 23	11.0	11.0	B9	1	..	23764b
9	475	7.3	+82 49	8.9	9.5	Go	4	..	37813i	59	10637	7.5	-48 24	10.6	10.2	A3	1	..	37577b
10	1461	7.3	+62 45	8.22	8.56	F2	4	..	37746i	60	10635	7.5	-48 32	11.0	10.5	A2	2	..	37577b
11	2154	7.3	+46 0	9.0	10.1	K2	1	..	37730i	61	9923	7.5	-51 9	10.6	9.7	A	2	..	19344b
12	3044	7.3	+25 41	9.1	10.1	Ko	2	..	38774i	62	9410	7.5	-52 57	8.9	8.4	Ao	3	..	19894b
13	2909	7.3	+23 45	5.96	7.31	Mb	8	0,7	38771i	63	6672	7.5	-59 56	9.2	9.2	Ao	4	..	21769b
14	3152	7.3	+8 27	9.3	9.3	Ao	2	..	19235b	64	6477	7.5	-60 43	9.6	9.6	Ao	4	..	21769b
15	4092	7.3	-12 6	9.0	9.4	F5	3	..	40589b	65	3862	7.5	-63 21	9.0	9.3	F2	5	..	21769b
16	4448	7.3	-12 56	9.5	10.0	F8	4	..	40589b	66	3863	7.5	-63 55	8.2	9.0	G5	5	..	19902b
17	4377	7.3	-13 31	9.8	10.6	G5	2	..	40589b	67	3426	7.5	-65 3	8.75	9.0	A5	4	..	42473b
18	4119	7.3	-22 14	9.2	8.9	A2	5	..	40316b	68	2369	7.6	+48 4	7.60	8.60	Ko	5	5,4	37730i
19	10856	7.3	-27 9	8.2	8.6	A2	6	..	40611b	69	2704	7.6	+36 17	8.1	9.2	K2	2	..	38504i
20	10919	7.3	-38 55	8.9	9.5	F5	4	0,4	14373b	70	3138	7.6	+18 15	8.5	9.3	G5	1	..	38771i
21	10632	7.3	-49 0	9.5	9.4	Go	3	..	37577b	71	3139	7.6	+18 4	8.5	9.0	F8	1	..	38771i
22	10269	7.3	-51 4	9.9	9.3	Ao	6	..	19344b	72	3012	7.6	+14 49	8.1	9.2	K2	1	R	38782i
23	9918	7.3	-51 48	10.6	9.3	F8	3	..	19344b	73	3133	7.6	+4 21	9.1	9.6	F8	3	..	19235b
24	9405	7.3	-52 16	9.3	9.3	Ao	3	..	19344b	74	3144	7.6	-1 28	7.46	7.41	B8	4	..	41735b
25	7294	7.3	-54 19	9.7	9.7	B8	2	..	19344b	75	4254	7.6	-6 2	9.3	9.4	A2	4	..	41229b
26	2186	7.3	-70 28	9.0	9.1	A2	4	..	14146b	76	4450	7.6	-12 50	10.4	11.2	G5	1	..	40589b
27	2469	7.4	+48 53	7.50	8.28	G5	5	0,4	38766i	77	4371	7.6	-14 57	10.7	..	Ro	..	..	M
28	2572	7.4	+43 3	8.2	8.5	F2	6	..	37730i	78	10857	7.6	-27 32	9.4	9.2	F2	2	..	40611b
29	2529	7.4	+28 42	7.54	8.04	F8	4	3,4	20998i	79	12380	7.6	-29 57	7.78	8.0	F8	7	R	40611b
30	2970	7.4	+12 10	8.3	8.4	A3	4	..	38782i	80	12681	7.6	-31 47	10.5	9.8	A2	2	..	39300b
31	3160	7.4	+5 12	10.5	10.5	Ao	3	..	19235b	81	10640	7.6	-48 36	9.9	9.9	K2	2	..	37577b
32	3890	7.4	-3 16	9.0	9.1	A5	3	..	41533b	82	7716	7.6	-57 39	5.86	6.6	A2	..	0,9	56,137
33	4382	7.4	-6 35	10.4	10.9	F8	1	..	41229b	83	7718	7.6	-57 59	9.7	9.7	B9	3	..	37619b
34	4326	7.4	-9 53	9.5	10.3	G5	2	..	40589b	84	5618	7.6	-61 8	9.8	9.9	A2	2	..	21769b
35	4378	7.4	-13 46	8.8	9.8	Ko	4	..	40589b	85	3057	7.6	-67 10	8.9	9.9	Ko	2	..	39343b
36	11981	7.4	-28 48	7.40	7.7	F8	6	..	40611b	86	2901	7.7	+16 47	8.6	9.1	F8	1	..	38782i
37	11517	7.4	-32 39	8.5	9.2	Ko	4	..	39300b	87	3117	7.7	+7 28	8.9	9.9	Ko	2	..	19235b
38	10633	7.4	-49 1	9.5	9.6	B9	2	..	37577b	88	3891	7.7	-3 58	6.08	6.08	Ao	8	..	41735b
39	7301	7.4	-55 2	9.37	10.0	Kb	3	..	19344b	89	4269	7.7	-15 31	8.9	9.7	G5	4	..	40589b
40	7473	7.4	-56 26	8.2	8.8	G5	7	..	37619b	90	4514	7.7	-17 50	8.1	9.1	Ko	4	..	11483b
41	2919	7.4	-67 0	8.7	9.3	Go	5	..	42473b	91	4303	7.7	-21 39	10.2	10.7	G5	1	..	40316b
42	541	7.5	+80 54	7.60	8.60	Ko	3	5,2	37813i	92	12623	7.7	-24 10	6.34	7.0	B8	6	..	3964b
43	3011	7.5	+14 48	8.7	9.8	K2	1	R	38782i	93	10858	7.7	-28 0	8.2	8.1	Ao	7	..	40611b
44	3164	7.5	+9 25	8.5	9.1	Go	6	..	19235b	94	9416	7.7	-52 40	8.6	8.7	B2	5	..	19894b
45	3132	7.5	+4 31	9.1	10.1	Ko	2	..	19235b	95	7537	7.7	-53 5	8.2	8.8	F5	3	..	19894b
46	4069	7.5	-4 54	9.3	9.4	A3	2	..	41533b	96	7485	7.7	-56 51	9.1	9.2	A2	3	..	37619b
47	4185	7.5	-8 21	9.5	10.0	F8	3	..	41229b	97	6710	7.7	-58 10	9.0	8.9	B8	5	..	37619b
48	4370	7.5	-14 51	7.41	8.59	K5	5	..	40589b	98	5249	7.7	-62 13	9.7	9.8	A2	3	..	21769b
49	4438	7.5	-20 56	10.2	10.4	F5	3	..	40316b	99	2308	7.8	+47 14	9.3	9.9	Go	2	..	37730i
50	4302	7.5	-21 42	9.8	10.4	Ko	2	..	40316b	100	2551	7.8	+44 34	8.2	9.2	Ko	3	..	37730i



## THE HENRY DRAPER CATALOGUE.

145800

16<sup>h</sup> 7<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2574	7.8	+43 18	7.9	8.9	Ko	5	..	3773oi	51	2971	8.1	+12 49	8.5	9.6	K2	2	..	38782i
2	2696	7.8	+33 36	6.41	7.41	Ko	8	..	38719i	52	3078	8.1	- 0 16	7.10	8.10	Ko	7	..	17083b
3	2601	7.8	+27 52	8.8	9.3	F8	3	..	38774i	53	3147	8.1	- 1 9	7.9	8.4	F8	7	..	41533b
4	3162	7.8	+ 5 43	9.8	10.4	Go	2	..	19235b	54	4454	8.1	-12 46	7.8	7.8	Ao	7	..	40589b
5	4383	7.8	- 6 43	10.4	11.4	Ko	1	..	41229b	55	4249	8.1	-16 45	10.0	10.8	G5	2	..	40589b
6	4230	7.8	- 7 7	9.5	9.6	A3	4	..	41229b	56	4120	8.1	-22 11	9.2	9.2	A2	4	..	40316b
7	4329	7.8	-10 5	var.	var.	Mb	2	R	41229b	57	12791	8.1	-23 54	9.4	8.7	A2	5	..	40316b
8	4268	7.8	-15 51	9.8	10.9	K2	1	..	40589b	58	10862	8.1	-27 39	9.8	10.4	G5	1	..	40611b
9	4305	7.8	-21 9	6.70	7.1	Go	10	..	40316b	59	11024	8.1	-33 10	11.0	11.0	Ko	1	..	39300b
10	12786	7.8	-24 0	8.6	8.0	Ao	6	..	40316b	60	10366	8.1	-39 34	9.5	10.4	A2	3	..	23764b
11	11444	7.8	-26 3	9.3	8.9	Go	5	..	40316b	61	11130	8.1	-42 31	9.7	9.8	F8	5	..	23764b
12	10531	7.8	-45 44	7.9	8.1	F5	2	..	3930b	62	10649	8.1	-48 39	9.5	9.3	G5	4	..	37577b
13	10642	7.8	-48 23	8.9	9.4	K2	4	..	37577b	63	10290	8.1	-50 44	10.6	10.4	Fo	2	..	19344b
14	10441	7.8	-49 37	8.3	9.0	K5	1	..	20092b	64	9933	8.1	-51 56	9.6	9.6	B9	2	..	19344b
15	7544	7.8	-53 48	8.2	8.6	F5	7	..	19344b	65	9426	8.1	-52 9	9.7	9.7	Ao	3	..	19344b
16	7486	7.8	-56 26	10.3	10.3	Ao	1	..	19640b	66	7330	8.1	-54 13	8.8	10.0	K5	1	..	19344b
17	6479	7.8	-60 46	9.6	10.4	G5	1	..	21769b	67	6482	8.1	-60 19	8.8	9.0	B9	7	..	21769b
18	6480	7.8	-60 51	9.5	9.5	Ao	4	..	21769b	68	3866	8.1	-63 21	9.3	9.3	Ao	5	..	21769b
19	2920	7.8	-66 5	9.3	9.3	Ao	5	..	42473b	69	1713	8.1	-74 4	7.3	8.3	Ko	5	..	11726b
20	3058	7.8	-68 0	9.4	9.4	Ao	3	..	42473b	70	1253	8.2	+63 40	6.71	6.79	A3	9	..	37746i
21	1649	7.9	+57 44	9.0	10.1	K2	1	..	38767i	71	1948	8.2	+52 24	8.8	8.9	A3	5	2,2	38766i
22	1818	7.9	+54 47	8.56	9.74	K5	2	..	38767i	72	2471	8.2	+49 19	8.0	8.4	F5	5	3,4	38766i
23	2310	7.9	+47 39	9.3	9.9	Go	2	..	3773oi	73	2313	8.2	+47 50	7.66	7.94	Fo	6	5,4	3773oi
24	3176	7.9	+ 0 54	9.64	10.20	Go	2	..	17083b	74	3136	8.2	+ 4 11	8.9	10.0	K2	3	..	19235b
25	12689	7.9	-31 24	6.63	7.6	Go	9	..	39300b	75	3895	8.2	- 3 21	9.2	10.4	K5	1	..	41533b
26	10364	7.9	-39 20	8.5	8.6	A2	6	..	23764b	76	3896	8.2	- 3 48	6.84	6.98	A5	5	..	41735b
27	10632	7.9	-43 22	9.7	10.1	B9	3	..	23764b	77	4271	8.2	-16 3	9.5	9.6	A2	3	..	40589b
28	10284	7.9	-50 44	10.3	9.4	B	2	..	19344b	78	4516	8.2	-17 29	9.5	10.3	G5	1	..	11483b
29	10281	7.9	-50 46	8.9	10.2	Ko	4	..	19344b	79	4306	8.2	-21 50	10.2	9.8	A2	3	..	40316b
30	7319	7.9	-55 1	10.2	10.3	A3	2	..	19344b	80	10367	8.2	-39 22	7.03	7.3	Ao	8	..	14373b
31	7296	7.9	-55 49	10.0	10.0	Ao	2	..	19640b	81	10579	8.2	-41 46	9.7	10.3	A2	2	..	23764b
32	1850	8.0	+53 18	7.98	9.05	K2	5	0,4	38767i	82	10635	8.2	-44 2	10.1	11.0	K2	1	..	23764b
33	2903	8.0	+16 48	8.0	8.4	F5	2	..	38782i	83	6485	8.2	-60 38	8.3	9.8	K2	4	..	21769b
34	3163	8.0	+ 5 7	9.5	10.7	K5	1	..	19235b	84	1972	8.2	-71 31	9.7	10.3	Go	2	..	14146b
35	4453	8.0	-12 24	9.3	10.1	G5	2	..	40589b	85	805	8.2	-80 55	9.5	9.5	Ao	2	..	43458b
36	12790	8.0	-23 31	8.0	8.3	G5	6	..	40316b	86	1658	8.3	+60 8	6.70	6.70	Ao	9	..	37746i
37	10860	8.0	-27 33	11.0	9.8	A2	2	..	40611b	87	1703	8.3	+59 33	8.8	9.3	F8	2	..	37746i
38	11525	8.0	-32 45	6.07	7.0	Ko	..	0,9	56,137	88	2472	8.3	+49 41	8.8	9.6	G5	2	..	38766i
39	10926	8.0	-38 23	9.2	9.3	Go	4	2,4	23764b	89	2682	8.3	+42 6	8.6	10.0	Mb	2	..	3773oi
40	10924	8.0	-38 53	7.66	7.6	Fo	9	..	23764b	90	2801	8.3	+26 42	8.3	9.4	K2	3	..	38774i
41	11129	8.0	-42 50	9.9	10.4	G5	2	..	23764b	91	3089	8.3	+13 4	6.96	7.04	A3	7	..	38782i
42	10611	8.0	-47 7	5.36	5.5	B8	..	0,9R	56,137	92	3165	8.3	+ 5 16	5.64	6.64	Ko	3	0,10	561b
43	10445	8.0	-49 18	10.6	9.9	Ao	2	..	37577b	93	4130	8.3	- 2 40	9.3	9.8	F8	1	..	41533b
44	10444	8.0	-49 21	10.3	9.7	Ao	3	0,2	37577b	94	4233	8.3	- 7 52	6.85	7.85	Ko	7	..	41229b
45	10286	8.0	-50 26	9.9	9.4	Ko	3	..	37577b	95	4188	8.3	- 8 57	8.2	9.3	K2	5	..	41229b
46	9422	8.0	-52 7	8.7	8.7	Bo	4	R	19344b	96	4274	8.3	-10 19	10.0	11.0	Ko	2	..	40589b
47	7549	8.0	-53 38	8.9	9.4	F8	4	..	19344b	97	4096	8.3	-11 35	5.50	6.50	Ko	5	0,R	8382b
48	2553	8.1	+44 22	9.3	9.4	A3	2	..	3773oi	98	4250	8.3	-16 46	10.0	11.0	Ko	1	..	40589b
49	2706	8.1	+36 41	5.68	6.86	K5	8	..	38504i	99	4518	8.3	-17 56	9.0	10.1	K2	1	..	11483b
50	2745	8.1	+34 40	8.2	9.0	G5	3	..	38504i	100	4307	8.3	-21 55	10.0	10.3	Go	3	..	40316b



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16<sup>h</sup> 8<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11991	8.3	-28 59	10.5	10.1	F8	2	..	40611b	51	3431	8.5	-64 8	8.9	9.0	A2	3	..	19902b
2	12692	8.3	-31 40	9.6	9.3	F5	3	..	39300b	52	2512	8.5	-69 13	9.4	10.0	Go	1	..	39343b
3	10291	8.3	-40 20	9.1	9.5	F5	5	..	23764b	53	142	8.5	-89 3	8.29	9.4	Ko	6	..	22980b
4	10636	8.3	-43 16	9.7	11.0	K2	1	..	23764b	54	1800	8.6	+54 35	9.1	9.4	F2	3	..	38767i
5	10723	8.3	-44 32	var.	var.	Md	1	R	23764b	55	2370	8.6	+48 1	8.2	9.3	K2	3	..	3773oi
6	10653	8.3	-49 0	9.1	8.4	Ao	2	..	20092b	56	2983	8.6	+40 4	8.7	9.3	Go	2	..	3773oi
7	10451	8.3	-49 50	10.3	9.6	F2	3	..	37577b	57	2961	8.6	+39 18	6.72	7.72	Ko	7	..	3773oi
8	7340	8.3	-54 13	9.1	8.5	Fo	7	..	19344b	58	3091	8.6	+13 48	6.84	7.84	Ko	6	..	38782i
9	3867	8.3	-64 4	8.4	9.4	Ko	3	..	19902b	59	3138	8.6	+4 36	9.1	10.3	K5	1	..	19235b
10	1973	8.3	-71 23	9.6	10.6	Ko	2	..	14146b	60	3899	8.6	-3 56	8.8	9.8	Ko	4	..	41533b
11	2698	8.4	+32 55	7.9	8.9	Ko	7	..	38719i	61	4189	8.6	-8 32	9.5	10.0	F8	3	..	41229b
12	3072	8.4	+19 21	7.40	8.47	K2	3	..	38771i	62	4385	8.6	-13 55	9.5	10.6	K2	2	..	40589b
13	3183	8.4	+6 18	7.9	8.0	A5	8	..	19235b	63	4252	8.6	-16 17	8.8	9.9	K2	3	3,1	40589b
14	4259	8.4	-5 58	8.8	8.8	Ao	4	..	41229b	64	4444	8.6	-20 51	6.31	6.5	Ao	7	..	36136b
15	4234	8.4	-7 23	9.5	9.5	Ao	4	..	41229b	65	4123	8.6	-22 58	10.7	10.7	Ko	1	..	40316b
16	4251	8.4	-16 8	8.6	8.9	Fo	5	2,4	40589b	66	12794	8.6	-23 53	10.5	10.7	A5	1	..	40316b
17	4247	8.4	-18 35	8.8	9.6	G5	3	..	11483b	67	11450	8.6	-25 11	9.35	9.6	K2	2	..	40316b
18	4122	8.4	-22 26	9.5	10.4	Ko	3	..	40316b	68	11537	8.6	-32 12	8.1	9.5	K5	3	..	39300b
19	11533	8.4	-32 38	9.4	9.5	Go	3	..	39300b	69	10582	8.6	-41 57	10.1	10.3	A2	3	..	23764b
20	11532	8.4	-33 0	10.1	10.1	G5	1	..	39300b	70	10641	8.6	-43 5	9.2	9.3	B9	4	..	23764b
21	11132	8.4	-42 39	6.16	7.5	Ko	..	..	56,137	71	10619	8.6	-47 19	8.4	8.2	A5	3	..	20092b
22	10296	8.4	-50 12	11.0	10.6	A	2	R	37577b	72	10659	8.6	-48 49	8.5	8.1	Fo	3	..	20092b
23	10295	8.4	-50 12	11.0	10.5	A	2	R	37577b	73	9943	8.6	-51 21	8.6	9.9	K2	1	..	19344b
24	10295	8.4	-50 20	10.1	9.7	G5	3	..	37577b	74	9441	8.6	-53 4	9.3	9.7	F5	1	..	21832b
25	9938	8.4	-51 33	9.9	9.3	B8	3	..	19344b	75	7370	8.6	-56 2	9.2	9.2	B9	4	..	19640b
26	9941	8.4	-52 0	10.3	9.3	Ao	4	..	19344b	76	2603	8.7	+26 56	6.37	6.71	F2	8	..	38774i
27	9433	8.4	-52 34	8.3	8.4	Go	5	..	19894b	77	2939	8.7	+11 41	8.1	8.1	Ao	6	E	19235b
28	7306	8.4	-55 10	9.3	10.3	Ko	1	..	19344b	78	3167	8.7	+5 34	8.4	9.5	K2	5	..	19235b
29	6675	8.4	-59 21	10.6	10.6	B9	2	..	37619b	79	3179	8.7	+7 45	9.8	10.4	Go	1	..	17083b
30	2065	8.5	+51 5	9.3	10.3	Ko	1	..	38766i	80	4274	8.7	-15 27	9.8	10.4	G	1	..	40589b
31	2683	8.5	+42 38	6.01	7.19	K5	8	..	3773oi	81	4273	8.7	-16 4	10.2	11.0	G5	1	..	40589b
32	2831	8.5	+31 43	8.5	8.9	F5	6	..	38719i	82	10885	8.7	-34 36	9.9	10.2	F5	1	..	39300b
33	2885	8.5	+21 48	8.5	9.5	Ko	2	..	38771i	83	10296	8.7	-40 9	9.68	9.2	B8	5	..	23764b
34	3090	8.5	+13 29	8.0	9.0	Ko	1	..	38782i	84	10583	8.7	-41 24	8.1	8.9	F2	7	..	23764b
35	3178	8.5	+0 55	9.59	10.09	F8	2	..	17083b	85	10622	8.7	-47 41	9.5	10.5	K5	2	..	37577b
36	3149	8.5	-1 13	6.58	7.58	Ko	3	..	41735b	86	10459	8.7	-49 21	11.0	9.9	Ao	2	..	37577b
37	4386	8.5	-6 39	8.2	8.8	Go	6	..	41229b	87	7585	8.7	-53 56	8.0	8.8	K2	5	..	19344b
38	4097	8.5	-11 28	8.8	9.3	F8	4	..	40589b	88	6676	8.7	-59 31	9.5	9.6	A2	4	3,2	37619b
39	4383	8.5	-13 43	10.0	10.0	A	2	..	40589b	89	1537	8.7	-74 51	8.9	9.0	A5	3	..	11726b
40	4384	8.5	-13 44	9.5	10.3	G5	3	..	40589b	90	767	8.7	-81 43	7.35	8.5	K2	6	..	13442b
41	4519	8.5	-17 10	9.5	10.1	Go	2	..	40589b	91	937	8.8	+66 6	9.3	10.3	K	2	..	37746i
42	4308	8.5	-21 52	7.60	7.9	A2	8	..	40316b	92	2790	8.8	+35 19	9.1	9.2	A5	1	..	38504i
43	11996	8.5	-28 48	10.1	10.4	Ko	1	..	40611b	93	3152	8.8	-1 41	9.1	9.7	Go	2	..	41533b
44	12695	8.5	-32 2	10.3	9.5	A3	2	..	39300b	94	3153	8.8	-2 5	8.07	8.49	F5	5	..	41533b
45	10640	8.5	-43 32	10.6	11.0	K2	1	..	23764b	95	4331	8.8	-10 0	9.31	9.37	A2	4	..	40589b
46	10656	8.5	-49 3	8.4	8.1	A2	4	..	20092b	96	4276	8.8	-10 10	7.26	7.76	F8	10	..	40589b
47	7579	8.5	-53 22	10.8	10.6	B	2	..	21832b	97	4249	8.8	-18 17	6.37	7.37	Ko	9	..	11483b
48	7581	8.5	-53 25	9.8	10.6	G5	1	..	21832b	98	4342	8.8	-19 59	9.13	9.8	F8	4	..	40316b
49	7345	8.5	-54 9	9.1	9.4	F2	4	..	19344b	99	4312	8.8	-21 38	10.4	10.1	A2	2	..	40316b
50	7307	8.5	-56 2	9.6	9.7	A2	3	..	19640b	100	4125	8.8	-23 4	10.7	10.4	A2	1	..	40316b

THE HENRY DRAPER CATALOGUE.

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16<sup>h</sup> 8<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11453	8.8	-25 13	6.16	6.7	B9	9	I,10	3964b	51	3903	9.1	-3 26	3.03	4.38	Ma	..	5,R	1295c
2	11032	8.8	-33 54	9.5	9.8	Ao	2	..	3930ob	52	4278	9.1	-10 25	8.6	9.6	Ko	5	..	40589b
3	7594	8.8	-53 34	5.43	7.5	Ma	4	R	36341b	53	4344	9.1	-19 48	10.4	10.4	A5	2	..	40316b
4	7354	8.8	-54 27	9.9	10.0	A3	3	..	19344b	54	4314	9.1	-21 20	10.0	10.4	Go	1	..	40316b
5	3432	8.8	-64 44	8.8	8.8	Ao	5	..	19902b	55	12637	9.1	-24 20	9.0	10.1	Ao	6	..	40316b
6	1975	8.8	-71 12	8.3	8.3	B9	8	..	14146b	56	11140	9.1	-42 45	10.1	10.1	A	4	..	23764b
7	1714	8.8	-73 6	8.7	9.8	K2	3	..	14146b	57	11144	9.1	-42 53	7.1	7.6	Ko	..	0,7	56,138
8	603	8.8	-83 40	9.8	9.9	A3	1	..	43458b	58	10309	9.1	-50 22	10.6	9.3	B	2	..	37577b
9	2260	8.9	+50 14	8.9	9.9	Ko	4	..	38766i	59	7607	9.1	-53 27	7.1	7.4	Ko	..	5,5	56,138
10	2886	8.9	+21 49	6.58	6.64	A2	8	..	38771i	60	7508	9.1	-56 7	9.7	10.5	G5	1	..	1964ob
11	3119	8.9	+6 56	9.3	10.3	Ko	1	..	19235b	61	7509	9.1	-57 4	8.4	9.4	K2	3	..	37619b
12	3180	8.9	+1 39	9.5	9.6	A5	1	..	17083b	62	6722	9.1	-58 9	8.8	9.6	G5	3	..	37619b
13	3901	8.9	-3 54	8.2	8.2	Ao	4	..	41735b	63	6723	9.1	-58 13	9.3	9.9	Go	1	..	1964ob
14	4313	8.9	-21 28	10.4	11.3	G5	1	..	40316b	64	3435	9.1	-64 37	8.6	9.6	Ko	3	..	19902b
15	4126	8.9	-22 25	10.7	10.7	F8	1	..	40316b	65	1660	9.2	+60 11	8.8	8.8	Ao	4	..	37746i
16	10584	8.9	-41 43	11.0	10.7	A2	1	..	23764b	66	2976	9.2	+10 30	8.9	10.1	K5	1	..	19235b
17	10644	8.9	-43 9	10.6	10.5	B8	2	..	23764b	67	3475	9.2	+0 45	9.34	9.40	A2	4	..	17083b
18	7599	8.9	-53 29	8.7	8.5	A2	6	..	19344b	68	4345	9.2	-19 53	10.0	10.7	G5	1	..	40316b
19	7355	8.9	-54 31	9.7	9.7	Ao	2	..	19344b	69	12803	9.2	-23 30	9.8	9.0	Fo	3	..	40316b
20	7505	8.9	-56 26	8.0	8.2	Ao	3	..	36341b	70	11273	9.2	-26 57	7.48	8.0	Go	7	..	40611b
21	6720	8.9	-58 46	9.8	10.6	G5	1	..	37619b	71	10586	9.2	-41 53	10.5	10.7	F8	1	..	23764b
22	5261	8.9	-62 19	9.9	9.9	B9	2	..	21769b	72	10545	9.2	-45 8	8.28	8.4	Ao	8	..	23764b
23	5259	8.9	-62 52	8.9	9.7	G5	2	..	21769b	73	10666	9.2	-48 59	10.3	9.3	B9	3	..	37577b
24	2576	9.0	+43 16	9.5	9.8	Fo	2	..	3773oi	74	10311	9.2	-50 24	11.0	9.9	Ao	1	..	37577b
25	2691	9.0	+32 52	7.9	9.0	K2	7	..	38719i	75	7365	9.2	-54 32	8.3	9.1	Ko	5	..	19344b
26	3120	9.0	+7 15	7.33	7.41	A3	9	..	19235b	76	7328	9.2	-55 28	10.0	10.0	B9	1	..	1964ob
27	4134	9.0	-2 50	9.5	9.8	Fo	3	..	41533b	77	7762	9.2	-57 50	9.7	9.7	B9	3	..	37619b
28	4277	9.0	-10 57	9.5	10.0	F8	2	..	40589b	78	3874	9.2	-63 6	8.8	9.4	Go	3	..	21769b
29	4127	9.0	-22 8	7.10	7.3	B9	9	..	40316b	79	2155	9.3	+46 27	7.82	8.32	F8	6	3,4	3773oi
30	10891	9.0	-35 1	9.44	10.0	A2	3	..	3930ob	80	2680	9.3	+41 3	7.70	7.70	Ao	6	..	3773oi
31	10585	9.0	-41 51	10.5	11.0	Ko	1	..	23764b	81	2908	9.3	+16 42	7.92	9.27	Ma	1	..	38782i
32	10664	9.0	-48 45	9.7	9.7	G5	2	..	37577b	82	2941	9.3	+11 41	8.5	9.5	Ko	1	E	19235b
33	9452	9.0	-52 13	9.4	10.4	Ko	1	..	21832b	83	3169	9.3	+9 48	8.37	8.65	Fo	7	..	19235b
34	9451	9.0	-52 21	var.	var.	Mb	1	R	19344b	84	3184	9.3	+6 9	6.44	7.22	G5	3	5,10	561b
35	9454	9.0	-52 39	9.0	9.1	A2	3	..	19344b	85	3184	9.3	+1 28	9.5	10.1	Go	1	..	17083b
36	9450	9.0	-52 52	9.9	9.9	Ao	2	..	19344b	86	4333	9.3	-9 29	9.3	9.4	A3	6	..	40589b
37	6680	9.0	-59 50	9.5	9.5	Ao	4	0,3	37619b	87	4379	9.3	-14 23	8.2	8.3	A5	7	..	40589b
38	5623	9.0	-61 42	8.4	9.5	Ko	4	..	21769b	88	4251	9.3	-18 9	9.8	9.9	A2	2	..	11483b
39	5263	9.0	-62 41	9.6	9.7	A2	3	..	21769b	89	4315	9.3	-21 52	10.2	10.2	F8	1	..	40316b
40	2923	9.0	-66 52	8.6	9.6	Ko	4	..	42473b	90	R	9.3	-22 43	11.0	10.7	Ao	2	..	40316b
41	2191	9.0	-70 55	9.2	10.3	K2	2	..	14146b	91	10648	9.3	-43 43	9.7	10.2	B8	3	..	23764b
42	1153	9.0	-76 14	8.5	9.5	Ko	2	..	11726b	92	10669	9.3	-48 56	9.9	9.1	Ao	2	..	23045b
43	928	9.1	+67 38	9.0	9.8	G5	2	..	37746i	93	10470	9.3	-49 13	7.4	7.9	A2	5	0,1	20092b
44	1659	9.1	+59 56	8.16	8.72	Go	4	..	37746i	94	10466	9.3	-49 46	10.6	10.4	K5	2	..	37577b
45	2578	9.1	+43 14	8.9	10.1	K5	2	..	3773oi	95	5625	9.3	-61 18	10.1	10.1	Ao	2	..	21769b
46	2607	9.1	+27 19	8.5	9.5	Ko	2	..	38774i	96	3268	9.3	-65 21	8.7	9.9	K5	1	..	42473b
47	3140	9.1	+4 17	7.9	8.7	G5	6	..	19235b	97	1979	9.3	-71 59	9.7	10.3	Go	2	..	14146b
48	3181	9.1	+1 46	9.1	10.2	K2	1	..	17083b	98	768	9.3	-81 18	9.1	10.3	K5	1	..	43458b
49	3474	9.1	+0 6	9.1	9.7	Go	3	..	17083b	99	2554	9.4	+43 55	8.2	8.7	F8	4	..	3773oi
50	3902	9.1	-3 13	8.8	9.6	G5	5	..	41533b	100	2963	9.4	+39 36	8.22	8.78	Go	3	..	38718i

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

146100

16<sup>h</sup> 9<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3143	9.4	+18 44	7.9	8.2	Fo	3	..	38771i	51	2927	9.6	-66 35	8.9	9.9	Ko	3	..	42473b
2	3151	9.4	+ 2 55	7.08	7.50	F5	10	..	17083b	52	1294	9.6	-75 26	8.4	9.2	G5	6	..	11726b
3	3155	9.4	- 1 40	8.5	8.6	A3	4	..	41533b	53	1295	9.6	-75 40	8.5	9.6	K2	3	..	11726b
4	4278	9.4	-15 10	9.51	10.29	G5	2	..	40589b	54	2156	9.7	+46 9	7.66	8.66	Ko	5	..	37730i
5	10315	9.4	-50 21	11.6	10.2	B9	1	..	37577b	55	3156	9.7	- 1 42	10.5	10.6	A2	2	..	41533b
6	7370	9.4	-54 32	9.3	9.4	A2	6	..	19344b	56	12642	9.7	-24 52	8.0	8.0	Go	6	..	40316b
7	7371	9.4	-54 44	9.7	9.7	Ao	2	..	19344b	57	12985	9.7	-30 54	9.1	10.7	Ko	1	..	39300b
8	6682	9.4	-59 53	9.0	9.8	K2	2	0.1	37619b	58	10633	9.7	-47 40	9.9	10.1	A2	3	..	37577b
9	3060	9.4	-67 32	9.4	9.4	Ao	4	..	39343b	59	10478	9.7	-49 21	11.6	10.5	A2	1	..	37577b
10	523	9.4	-84 43	8.6	9.6	Ko	2	..	13458b	60	7773	9.7	-57 44	9.0	10.2	Ma	1	..	19640b
11	2943	9.5	+11 7	9.1	9.2	A3	2	..	19235b	61	7771	9.7	-57 51	9.7	9.7	Ao	2	..	37619b
12	3155	9.5	+ 8 45	9.5	10.1	Go	3	..	19235b	62	3436	9.7	-64 47	9.6	9.7	A5	3	..	19902b
13	3186	9.5	+ 6 32	9.0	10.0	Ko	3	..	19235b	63	1928	9.7	-72 24	9.6	9.7	A5	4	..	14146b
14	3141	9.5	+ 4 36	9.0	9.6	Go	2	..	19235b	64	604	9.7	-83 21	7.88	8.5	Fo	8	..	13442b
15	3152	9.5	+ 3 1	9.8	10.4	G	1	..	17083b	65	865	9.8	+68 46	9.3	9.7	F5	1	..	37752i
16	3082	9.5	- 0 8	7.83	8.83	Ko	6	..	17083b	66	2476	9.8	+49 43	8.7	9.7	Ko	3	5.4	38766i
17	4388	9.5	- 6 14	9.3	10.3	Ko	2	..	41229b	67	2793	9.8	+35 27	8.1	9.3	K5	3	..	38504i
18	4101	9.5	-11 27	8.8	8.9	A3	5	..	40589b	68	2792	9.8	+29 0	7.52	7.86	F2	4	..	38774i
19	4460	9.5	-12 59	8.6	8.7	A2	5	..	40589b	69	3158	9.8	+ 8 6	6.84	7.84	Ko	8	..	19235b
20	4317	9.5	-21 20	9.0	9.0	A2	5	..	40316b	70	3477	9.8	- 0 1	8.13	9.20	K2	4	..	17083b
21	4316	9.5	-21 32	10.4	10.2	F8	1	..	40316b	71	3083	9.8	- 0 20	8.9	9.9	Ko	3	..	41533b
22	10653	9.5	-43 26	9.7	10.8	Ko	1	..	23764b	72	4144	9.8	- 2 35	8.8	9.6	G5	4	..	41533b
23	10546	9.5	-45 18	9.3	9.6	B9	4	..	23764b	73	4391	9.8	- 7 6	8.2	8.5	Fo	6	..	41229b
24	10471	9.5	-49 36	7.5	8.1	Ko	4	..	20092b	74	4279	9.8	-15 30	9.5	10.5	Ko	2	..	40589b
25	10316	9.5	-50 46	11.6	9.4	B8	3	..	19344b	75	4129	9.8	-22 34	9.0	8.9	Ao	5	..	40316b
26	9467	9.5	-52 42	8.7	9.3	G5	3	..	19344b	76	12404	9.8	-29 47	10.1	9.8	Fo	2	..	40611b
27	7620	9.5	-53 33	8.7	9.1	Ko	5	..	19344b	77	12986	9.8	-30 22	7.50	8.0	Fo	7	..	40611b
28	5267	9.5	-62 15	9.1	9.2	A5	5	..	21769b	78	10853	9.8	-35 40	9.1	10.9	K5	1	..	39300b
29	5266	9.5	-62 48	9.0	9.0	B9	6	..	21769b	79	10714	9.8	-36 30	8.3	9.9	G5	4	..	14373b
30	2655	9.5	-68 41	10.0	10.0	Ao	1	..	39343b	80	10749	9.8	-37 58	9.5	10.4	F8	2	..	21440b
31	2657	9.5	-68 50	9.2	9.7	F8	1	..	39343b	81	10932	9.8	-38 29	8.8	9.2	F5	5	..	23764b
32	2516	9.5	-69 43	8.9	9.4	F8	5	..	42473b	82	10740	9.8	-44 58	10.02	9.6	B9	4	..	23764b
33	2515	9.5	-70 3	9.7	9.7	Ao	1	..	39343b	83	10616	9.8	-47 0	7.9	7.9	A5	5	..	20092b
34	1704	9.6	+59 42	8.06	8.48	F5	4	..	37746i	84	10324	9.8	-50 37	10.3	9.6	F2	2	..	19344b
35	2736	9.6	+38 20	7.03	7.37	F2	7	2.7	38504i	85	10323	9.8	-51 1	11.0	9.6	Fo	3	..	19344b
36	3169	9.6	+ 5 47	8.5	8.9	F5	7	..	19235b	86	7523	9.8	-57 0	9.0	9.7	Ko	3	..	19640b
37	4139	9.6	- 2 41	10.2	11.0	G5	1	..	41533b	87	7775	9.8	-57 48	8.9	8.5	A	5	..	37619b
38	4335	9.6	-10 2	10.4	10.5	A2	2	..	40589b	88	6729	9.8	-58 43	9.6	10.7	K2	1	..	37619b
39	4462	9.6	-12 30	8.9	9.9	Ko	3	..	40589b	89	3064	9.8	-67 32	8.7	9.7	Ko	3	..	39343b
40	4346	9.6	-19 59	9.28	10.4	Fo	2	..	40316b	90	1296	9.8	-75 44	8.0	9.2	K5	6	..	11726b
41	12008	9.6	-28 46	8.4	9.3	G5	2	..	40611b	91	2774	9.9	+30 19	8.9	9.7	G5	1	..	38774i
42	11150	9.6	-43 3	11.0	11.0	A2	1	..	23764b	92	3185	9.9	+ 1 14	9.3	9.7	F5	3	..	17083b
43	10474	9.6	-49 49	5.00	6.5	F8p	..	R	28,211	93	3157	9.9	- 1 31	6.97	6.97	Ao	4	..	41735b
44	9471	9.6	-52 23	9.8	9.9	A2	1	..	19344b	94	4193	9.9	- 9 5	9.8	9.9	A2	3	..	41229b
45	9469	9.6	-52 50	6.44	7.4	A5	..	0.6	56,138	95	4319	9.9	-21 42	10.9	10.4	A3	1	..	40316b
46	7633	9.6	-53 12	9.7	10.0	Fo	2	..	19344b	96	12643	9.9	-24 5	10.3	10.1	G5	2	..	40316b
47	7373	9.6	-54 46	8.6	9.1	K5	3	..	19344b	97	12406	9.9	-29 33	10.1	10.4	Ao	2	..	40611b
48	7769	9.6	-57 41	8.1	8.2	Ko	7	..	37619b	98	10548	9.9	-45 7	9.68	9.9	G5	3	..	23764b
49	5627	9.6	-61 36	9.0	10.3	K2	2	..	21769b	99	10480	9.9	-49 22	11.0	10.5	K5	1	..	37577b
50	5628	9.6	-61 51	9.2	9.8	Go	3	..	21769b	100	10330	9.9	-50 23	10.1	9.9	Ko	1	..	37577b

## THE HENRY DRAPER CATALOGUE.

146200

16<sup>h</sup> 9<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	7643	9.9	-53 54	10.9	10.9	Ao	2	..	21832b	51	2374	10.2	+48 20	8.6	10.0	Mb	2	5.1	3773oi
2	7387	9.9	-54 39	8.8	9.4	Fo	5	..	19344b	52	3123	10.2	+ 7 44	8.9	10.1	K5	1	..	19235b
3	7388	9.9	-54 58	8.53	9.2	Ma	5	..	19344b	53	4281	10.2	-10 34	9.8	11.0	K5	1	..	40589b
4	7779	9.9	-57 36	10.0	10.0	Ao	2	..	19640b	54	4383	10.2	-14 36	6.10	6.10	Ao	7	..	8382b
5	6730	9.9	-58 39	9.5	9.5	B9	4	..	37619b	55	4284	10.2	-15 38	8.0	9.0	Ko	4	..	40589b
6	6683	9.9	-59 57	9.6	9.6	Ao	2	..	21769b	56	10657	10.2	-43 42	10.6	10.8	K2	1	..	23764b
7	5631	9.9	-61 45	9.8	9.8	Ao	3	..	21769b	57	10678	10.2	-48 56	10.3	9.0	A2	4	..	37577b
8	3067	9.9	-67 46	9.4	9.4	Ao	5	..	42473b	58	10343	10.2	-50 43	9.9	9.3	Fo	4	..	19344b
9	2262	10.0	+50 41	9.3	10.4	K2	1	..	38766i	59	9970	10.2	-51 39	11.6	9.6	Ao	3	..	19344b
10	2580	10.0	+42 59	9.5	10.1	G	2	..	3773oi	60	7353	10.2	-55 52	9.2	9.2	B8	4	..	19640b
11	2987	10.0	+40 4	7.27	8.27	Ko	5	..	3773oi	61	7793	10.2	-57 35	9.2	9.4	B8	4	R	37619b
12	3159	10.0	- 2 5	8.37	9.15	G5	3	..	41533b	62	6686	10.2	-59 24	10.1	10.1	B9	1	..	19640b
13	4280	10.0	-10 47	7.60	8.16	Go	8	..	40589b	63	1208	10.2	-77 13	8.3	8.9	Go	4	..	42633b
14	4463	10.0	-12 25	7.26	7.26	Ao	8	..	40589b	64	3148	10.3	+18 28	7.50	8.50	Ko	4	..	38771i
15	4282	10.0	-15 11	9.36	9.78	F5	3	..	40589b	65	3144	10.3	+ 4 31	8.5	8.8	Fo	8	..	19235b
16	4348	10.0	-19 49	7.64	7.7	Fo	7	..	40316b	66	12644	10.3	-24 49	8.8	8.6	Ao	5	..	40316b
17	4130	10.0	-22 55	9.8	11.0	Ko	1	..	40316b	67	10659	10.3	-43 13	10.6	11.8	K5	1	..	23764b
18	11554	10.0	-32 20	9.5	9.5	F5	4	..	39300b	68	7401	10.3	-54 24	8.7	8.8	Ao	6	..	19344b
19	10715	10.0	-36 20	9.5	10.2	A3	1	..	14373b	69	7356	10.3	-55 16	9.5	9.5	B9	3	..	19344b
20	11154	10.0	-42 47	9.2	10.3	K2	3	..	23764b	70	7530	10.3	-56 26	8.6	9.5	Ko	4	..	19640b
21	10654	10.0	-43 20	9.3	10.1	Ao	4	..	23764b	71	7804	10.3	-57 27	8.2	8.2	B5	6	..	37619b
22	10332	10.0	-50 21	11.6	10.5	B8	1	..	37577b	72	5275	10.3	-62 13	8.9	8.9	Ao	8	..	21769b
23	9481	10.0	-52 50	8.9	8.7	Ao	5	..	19344b	73	5274	10.3	-62 23	9.0	9.0	Ao	7	..	21769b
24	7650	10.0	-53 18	8.1	7.6	B3	..	5.9	56,138	74	3441	10.3	-64 44	9.1	10.1	Ko	1	..	19902b
25	6684	10.0	-60 0	9.6	9.6	B9	2	..	21769b	75	3270	10.3	-65 43	8.7	9.9	K5	2	..	42473b
26	3438	10.0	-64 19	7.9	7.9	Ao	7	..	19902b	76	3068	10.3	-67 45	9.1	9.1	Ao	5	..	42473b
27	1571	10.1	+61 26	9.1	10.1	Ko	2	..	37746i	77	1207	10.3	-77 54	9.0	10.1	K2	1	..	42633b
28	1949	10.1	+52 1	9.2	9.6	F5	2	..	38766i	78	2991	10.4	+40 35	7.86	8.86	Ko	4	..	3773oi
29	2978	10.1	+10 37	8.9	9.7	G5	3	..	19235b	79	2947	10.4	+11 44	7.43	7.71	Fo	5	0.7	38782i
30	3170	10.1	+ 9 10	9.8	10.2	F5	2	..	19235b	80	3479	10.4	+ 0 39	9.5	9.8	F2	2	..	17083b
31	3085	10.1	- 0 23	8.1	9.1	Ko	5	..	41533b	81	4384	10.4	-14 38	10.0	10.6	Go	3	..	40589b
32	3084	10.1	- 0 33	9.8	10.6	G5	2	..	41533b	82	4131	10.4	-22 52	9.8	9.8	A5	2	..	40316b
33	4242	10.1	- 8 6	5.56	6.12	Go	6	5.6	10057b	83	4132	10.4	-22 55	8.42	8.9	G	2	..	40316b
34	4283	10.1	-15 20	7.85	8.41	Go	7	..	40589b	84	12816	10.4	-24 2	6.62	7.1	B8	10	..	40316b
35	4321	10.1	-21 42	10.7	10.5	Ko	1	..	40316b	85	12645	10.4	-24 44	8.1	8.0	B9	6	..	40316b
36	10877	10.1	-27 55	9.1	9.2	Ao	4	..	40611b	86	11559	10.4	-32 30	8.8	9.8	Ao	3	..	39300b
37	12014	10.1	-29 0	9.0	9.5	G5	2	..	40611b	87	11047	10.4	-33 36	9.1	9.8	F8	2	..	39300b
38	12989	10.1	-30 27	9.8	9.9	G5	2	..	39300b	88	10381	10.4	-39 19	10.8	11.2	G5	2	..	21440b
39	10716	10.1	-36 4	8.8	9.6	G5	5	..	14373b	89	10379	10.4	-39 32	10.8	10.4	Go	2	..	21440b
40	10752	10.1	-37 41	9.1	9.9	Ao	3	..	14373b	90	11160	10.4	-42 36	9.3	9.3	A2	5	..	23764b
41	10742	10.1	-44 44	10.1	10.2	Ao	3	..	23764b	91	11159	10.4	-43 3	10.6	10.4	G5	1	..	23764b
42	9483	10.1	-52 45	8.6	8.7	B5	5	..	19344b	92	10486	10.4	-49 55	11.0	9.9	B9	2	..	37577b
43	7651	10.1	-53 55	9.8	10.9	K2	1	..	21832b	93	9490	10.4	-52 29	8.3	7.9	Ao	6	..	19344b
44	7652	10.1	-54 0	10.1	10.2	A2	3	..	21832b	94	7803	10.4	-57 42	8.9	8.9	B8	3	..	19640b
45	7393	10.1	-54 38	9.5	9.5	Ao	5	..	19344b	95	2664	10.4	-68 18	7.4	7.4	B9	9	..	42473b
46	7348	10.1	-55 16	9.5	9.5	B9	2	..	19344b	96	2196	10.4	-71 2	9.4	10.0	Go	2	..	14146b
47	6733	10.1	-58 9	7.15	8.6	Ko	6	..	37619b	97	1297	10.4	-75 16	8.4	9.2	G5	4	..	11726b
48	3439	10.1	-64 36	9.1	9.9	G5	1	..	19902b	98	2946	10.5	+22 37	8.7	9.7	Ko	2	..	38771i
49	605	10.1	-83 20	8.97	9.4	F5	2	..	13442b	99	3161	10.5	+ 8 43	9.3	9.9	Go	3	..	19235b
50	938	10.2	+66 9	9.1	9.9	G5	2	..	37746i	100	12997	10.5	-30 38	9.1	9.9	Ko	2	..	39300b

146300

16<sup>h</sup> 10<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11162	10.5	-42 25	9.3	9.8	F5	4	..	23764b	51	2892	10.8	+21 17	9.1	9.1	Ao	3	..	38771i
2	10661	10.5	-43 36	10.6	10.6	Fo	2	..	23764b	52	4246	10.8	-7 41	9.5	9.5	Ao	3	..	41229b
3	10683	10.5	-48 9	11.6	10.8	B9	1	..	37577b	53	12647	10.8	-24 41	9.3	8.9	F5	5	..	40316b
4	10492	10.5	-49 21	10.3	10.5	K5	1	..	37577b	54	10383	10.8	-39 34	9.5	10.7	Ko	2	..	21440b
5	7668	10.5	-53 13	10.2	10.2	B8	2	..	19344b	55	10554	10.8	-45 34	8.6	10.2	K5	1	..	21842b
6	7809	10.5	-57 53	8.8	8.0	B8	6	..	37619b	56	10688	10.8	-48 20	9.9	9.9	F8	2	..	37577b
7	3273	10.5	-66 2	9.9	9.9	Ao	1	..	42473b	57	7687	10.8	-53 5	9.7	9.7	B8	3	..	19344b
8	3072	10.5	-67 7	9.3	9.3	Ao	4	..	42473b	58	7426	10.8	-54 43	9.2	9.2	B9	5	..	19344b
9	2197	10.5	-70 50	8.7	9.1	F5	5	..	14146b	59	2519	10.8	-69 24	9.4	9.4	B9	3	..	39343b
10	1985	10.5	-71 38	7.24	7.0	Ao	8	..	42473b	60	2318	10.9	+47 8	9.3	9.7	F5	4	..	37316i
11	2948	10.6	+10 59	8.9	9.0	A3	2	..	19235b	61		10.9	+34 7	5.76	6.32	Go	10	R	38504i
12	4252	10.6	-18 21	8.8	9.4	Go	5	..	11483b	62	2750	10.9	+34 7	6.66	7.22				
13	11051	10.6	-33 21	9.5	9.5	F8	3	..	39300b	63	2984	10.9	+24 47	9.06	9.84	G5	1	..	38774i
14	10720	10.6	-36 19	10.3	10.5	F8	1	..	14373b	64	3157	10.9	+3 19	8.9	10.1	K5	1	..	17083b
15	10749	10.6	-44 35	10.6	10.2	A2	4	..	23764b	65	4389	10.9	-13 24	9.5	10.1	Go	3	..	40589b
16	10551	10.6	-45 12	9.08	9.6	F8	4	..	23764b	66	4323	10.9	-21 22	10.7	10.4	F8	2	..	40316b
17	10499	10.6	-49 6	10.6	9.9	G5	1	..	37577b	67	4133	10.9	-22 52	8.54	8.4	Fo	6	..	40316b
18	10494	10.6	-49 31	9.1	8.7	Ko	3	..	23045b	68	1091	10.9	-34 35	7.91	8.4	F8	7	..	14373b
19	9501	10.6	-52 20	8.6	9.4	K2	2	..	19344b	69	11167	10.9	-42 5	10.1	10.3	G5	2	..	23764b
20	7418	10.6	-54 40	9.7	9.7	B8	3	..	19640b	70	11168	10.9	-42 12	11.6	11.0	A	1	..	23764b
21	7415	10.6	-54 43	10.0	10.0	Ao	3	..	19344b	71	10664	10.9	-43 31	11.0	10.5	A2	2	..	23764b
22	7414	10.6	-54 48	9.7	9.7	B9	5	..	19344b	72	10752	10.9	-44 15	10.6	10.6	Go	2	..	23764b
23	7821	10.6	-57 39	var.	var.	Gop	..	0.7 R	56,138	73	9986	10.9	-51 11	9.9	9.0	B9	4	..	19344b
24	7816	10.6	-57 41	8.5	7.5	B8	6	..	37619b	74	7691	10.9	-53 24	9.0	8.8	A2	7	..	19344b
25	3881	10.6	-63 4	9.0	9.1	A5	5	..	21769b	75	7685	10.9	-53 45	10.6	10.6	Ao	2	..	21832b
26	1625	10.7	+58 3	8.6	9.1	F8	3	..	38767i	76	7431	10.9	-54 14	9.4	9.4	Ao	2	R	19344b
27	2317	10.7	+46 53	8.4	9.0	Go	5	..	37730i	77	7428	10.9	-54 24	9.7	9.7	B8	2	..	19344b
28	3191	10.7	+6 32	9.8	10.2	F5	3	..	19235b	78	7430	10.9	-55 2	8.6	9.5	K2	3	..	19344b
29	4392	10.7	-6 21	10.0	11.2	K5	1	..	41229b	79	7375	10.9	-55 42	8.9	10.0	K2	1	..	19640b
30	12646	10.7	-24 59	8.80	9.0	A2	4	..	40316b	80	3884	10.9	-63 42	7.9	9.0	K2	7	..	21769b
31	11464	10.7	-25 37	8.2	8.3	Ao	5	..	40316b	81	3446	10.9	-64 15	8.7	8.7	B8	7	..	19902b
32	12411	10.7	-29 30	7.5	7.9	B8	7	..	40611b	82	3276	10.9	-65 15	9.7	9.7	Ao	2	..	39343b
33	12732	10.7	-31 37	11.0	10.7	A2	1	..	39300b	83	3277	10.9	-65 28	8.7	8.7	B9	6	..	42473b
34	10382	10.7	-39 56	10.1	11.2	K2	1	..	21440b	84	1656	11.0	+57 35	8.8	9.8	Ko	3	..	38767i
35	11164	10.7	-42 46	8.3	8.3	B5	7	..	23764b	85	1875	11.0	+56 0	9.3	9.3	B9	2	..	38767i
36	10686	10.7	-48 18	11.0	10.6	K2	1	..	37577b	86	2319	11.0	+47 51	8.2	9.0	G5	4	0.2	37730i
37	10684	10.7	-48 58	8.1	7.9	B5	4	..	20092b	87	2751	11.0	+34 46	8.37	8.45	A3	2	..	38504i
38	10496	10.7	-49 38	10.6	9.4	B8	2	..	37577b	88	3075	11.0	+19 3	5.86	6.86	Ko	9	..	38771i
39	10352	10.7	-50 56	10.1	9.6	Fo	2	..	19344b	89	2980	11.0	+10 17	9.1	9.6	F8	2	..	19235b
40	9981	10.7	-51 19	10.3	9.6	Ao	3	..	19344b	90	3175	11.0	+9 46	8.62	9.80	K5	3	..	19235b
41	9980	10.7	-51 57	10.1	9.3	Go	3	..	19344b	91	3173	11.0	+9 8	8.6	9.1	F8	4	..	19235b
42	9503	10.7	-52 21	8.8	9.7	Ko	2	..	19344b	92	3192	11.0	+6 17	8.5	9.3	G5	5	..	19235b
43	7679	10.7	-53 23	9.2	8.8	B8	6	..	19344b	93	3086	11.0	-0 42	9.8	10.6	G5	2	..	41533b
44	7683	10.7	-53 43	10.4	10.5	A2	2	..	21832b	94	4285	11.0	-15 58	9.8	10.9	K2	1	..	40589b
45	7420	10.7	-54 40	9.7	9.7	B8	3	..	19640b	95	4258	11.0	-16 16	9.3	10.4	K2	1	..	40589b
46	7540	10.7	-56 11	9.1	10.2	K2	2	..	19640b	96	4453	11.0	-20 32	10.0	9.9	G5	3	..	40316b
47	6738	10.7	-58 22	9.4	9.5	A2	3	..	37619b	97	10884	11.0	-27 16	9.6	9.8	A2	2	..	40611b
48	6491	10.7	-60 18	9.2	9.8	Ao	5	..	21769b	98	11169	11.0	-43 2	10.6	11.0	A2	2	..	23764b
49	3442	10.7	-64 24	7.03	6.5	Ao	6	..	43874b	99	10753	11.0	-44 6	10.6	11.0	K5	1	..	23764b
50	2666	10.7	-68 5	8.9	9.7	G5	2	..	42473b	100	10640	11.0	-47 21	10.6	10.4	Ko	1	..	37577b

## THE HENRY DRAPER CATALOGUE.

146400

16<sup>h</sup> 11<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	9987	11.0	-51 18	9.1	9.3	Ko	3	..	19344b	51	3025	11.3	+14 15	8.0	8.1	A2	3	..	38782i
2	7690	11.0	-54 3	10.3	10.6	Fo	2	..	19344b	52	2951	11.3	+11 40	7.50	8.50	Ko	4	0,7	38782i
3	7439	11.0	-54 29	9.1	9.1	B8	5	..	19344b	53	3176	11.3	+9 10	8.7	9.9	K5	3	..	19235b
4	7842	11.0	-57 51	8.4	9.1	Ma	3	..	37619b	54	4197	11.3	-8 11	9.0	10.2	K5	1	..	41229b
5	6739	11.0	-58 11	9.2	9.8	Go	2	..	37619b	55	4102	11.3	-11 35	10.0	10.5	F8	1	..	40589b
6	6741	11.0	-58 23	10.0	10.1	A2	1	..	37619b	56	4288	11.3	-16 5	10.4	10.7	F	1	..	40589b
7	6740	11.0	-59 3	9.1	10.4	K5	1	..	37619b	57	4136	11.3	-22 40	8.38	8.7	A3	7	..	40316b
8	6689	11.0	-59 22	10.4	10.4	Ao	1	..	19640b	58	10307	11.3	-40 45	8.9	9.3	F5	5	..	23764b
9	6494	11.0	-60 54	8.7	9.2	B8	7	..	21769b	59	10758	11.3	-44 25	10.6	11.0	Ma	1	..	23764b
10	3449	11.0	-64 9	8.8	8.8	Ao	5	..	19902b	60	10694	11.3	-48 51	11.0	9.9	B9	2	..	37577b
11	3447	11.0	-64 37	9.1	9.1	B9	4	..	19902b	61	10366	11.3	-50 14	8.90	8.5	B9	4	..	23045b
12	2521	11.0	-69 29	8.6	9.1	F8	4	..	39343b	62	7704	11.3	-54 3	8.6	9.4	K5	3	..	19344b
13	3125	11.1	+7 37	8.6	9.8	K5	3	..	19235b	63	7452	11.3	-54 43	8.2	8.2	B8	8	..	19344b
14	3193	11.1	+6 17	8.3	9.4	K2	3	..	19235b	64	7385	11.3	-55 16	9.1	9.7	K2	2	..	19344b
15	4393	11.1	-6 44	var.	var.	Ao	4	R	41229b	65	6742	11.3	-58 50	8.2	9.2	G5	4	..	37619b
16	4454	11.1	-21 3	6.42	6.3	B9	7	..	36136b	66	2671	11.3	-68 4	9.3	9.4	A2	4	..	42473b
17	4135	11.1	-22 43	Cl.	Cl.	Con.	5	R	40316b	67	1099	11.3	-78 20	9.1	10.1	Ko	1	..	42633b
18	10757	11.1	-37 30	7.47	7.8	F2	8	..	14373b	68	1104	11.4	+65 29	9.6	10.1	F8	2	..	37746i
19	10595	11.1	-41 48	10.8	10.7	Ao	1	..	23764b	69	2264	11.4	+50 20	8.8	9.2	F5	4	..	38766i
20	11170	11.1	-42 52	10.6	11.0	Fo	1	..	23764b	70	2697	11.4	+32 25	8.5	9.6	K2	1	..	38774i
21	10666	11.1	-43 37	9.1	9.6	Go	5	..	23764b	71	2912	11.4	+16 17	8.5	9.5	Ko	1	..	38782i
22	10627	11.1	-46 12	7.4	7.5	Mb	5	..	37577b	72	4083	11.4	-5 6	9.35	10.35	Ko	2	..	41533b
23	10357	11.1	-50 58	9.0	8.5	F5	6	3,6-	21832b	73	13007	11.4	-30 17	10.3	11.1	K5	1	..	39300b
24	9992	11.1	-51 12	11.6	9.9	B9	2	..	19344b	74	10597	11.4	-41 44	9.5	10.7	Go	1	..	23764b
25	9516	11.1	-52 38	9.4	9.7	Fo	1	..	19344b	75	11175	11.4	-42 30	9.3	9.3	K2	4	..	23764b
26	7442	11.1	-54 44	9.7	9.7	Ao	3	..	19344b	76	10670	11.4	-43 46	9.3	9.9	Ao	4	..	23764b
27	7552	11.1	-56 59	9.0	9.2	B5	5	..	19640b	77	10520	11.4	-49 10	11.6	9.7	Ao	3	..	37577b
28	7847	11.1	-57 39	8.8	8.6	B5	4	..	19640b	78	10518	11.4	-49 28	10.6	10.5	Ko	1	..	37577b
29	5634	11.1	-61 7	9.5	9.5	B8	5	..	21769b	79	10370	11.4	-50 9	8.51	8.4	B9	5	..	23045b
30	3278	11.1	-65 13	9.3	9.7	F5	2	..	39343b	80	7710	11.4	-53 27	9.6	10.6	Ko	1	..	19344b
31	2687	11.2	+42 18	8.8	9.6	G5	2	..	37730i	81	7454	11.4	-54 16	7.4	7.8	Go	9	..	19344b
32	2893	11.2	+21 41	8.7	9.8	K2	1	..	38771i	82	7388	11.4	-55 38	9.4	9.4	Ao	2	..	19640b
33	3161	11.2	-1 24	6.94	7.44	F8	3	..	41735b	83	7859	11.4	-57 40	8.5	8.5	B8	5	..	37619b
34	4339	11.2	-9 56	8.2	9.0	G5	7	..	40589b	84	7858	11.4	-57 42	9.4	9.4	Ao	2	..	37619b
35	4469	11.2	-12 17	9.5	9.9	F5	4	..	40589b	85	5635	11.4	-61 53	9.9	9.9	B9	3	..	21769b
36	4350	11.2	-19 51	6.60	7.6	Ko	8	..	40316b	86	3885	11.4	-63 8	8.7	9.7	Ko	2	..	21769b
37	12827	11.2	-23 59	9.3	8.8	Ao	4	..	40316b	87	3076	11.4	-67 49	9.9	10.0	A2	2	..	39343b
38	11281	11.2	-26 5	9.6	9.8	G5	2	..	40316b	88	2582	11.5	+43 28	8.4	9.2	G5	2	..	37730i
39	11058	11.2	-33 32	9.5	9.8	Ao	3	..	39300b	89	2798	11.5	+34 58	7.32	8.32	Ko	5	..	38504i
40	10596	11.2	-41 22	10.5	10.4	A5	2	..	23764b	90	4266	11.5	-5 14	7.20	7.26	A2	4	2,10	41735b
41	10756	11.2	-44 54	10.3	10.1	B8	2	..	23764b	91	4198	11.5	-9 7	9.5	9.8	Fo	4	..	41229b
42	10556	11.2	-45 36	8.9	9.0	B2	4	..	21842b	92	4388	11.5	-14 49	9.2	10.2	Ko	2	..	40589b
43	10628	11.2	-46 32	10.3	10.2	Ko	2	..	37577b	93	4138	11.5	-22 58	10.2	10.4	F5	1	..	40316b
44	10513	11.2	-49 10	7.6	7.5	B3	5	..	20092b	94	4137	11.5	-23 6	9.2	9.0	A2	5	..	40316b
45	10362	11.2	-50 52	10.3	9.4	B8	2	..	19344b	95	12656	11.5	-24 11	10.3	10.3	G5	2	..	40316b
46	7446	11.2	-54 41	9.7	9.7	Ao	3	..	19344b	96	12423	11.5	-29 33	8.2	8.6	F5	4	..	40611b
47	7555	11.2	-56 40	9.7	9.7	B9	1	..	19640b	97	10918	11.5	-34 23	8.5	10.0	Ko	3	5,2	39300b
48	7854	11.2	-57 38	9.2	8.8	B8	4	0,4	37619b	98	10389	11.5	-39 21	9.5	10.4	Ko	3	..	21440b
49	6691	11.2	-59 23	9.5	10.7	K5	1	..	19640b	99	10388	11.5	-39 30	10.1	9.8	F8	4	..	21440b
50	2320	11.3	+46 54	9.5	10.1	G	3	..	37730i	100	10630	11.5	-46 47	10.3	10.2	G5	2	..	37577b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

146500

16<sup>h</sup> 11<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10525	11.5	-49 10	7.6	7.7	Ao	2	..	393ob	51	10675	11.7	-43 17	11.0	10.5	Ao	2	..	23764b
2	10521	11.5	-49 23	10.6	9.9	Ao	2	..	37577b	52	10644	11.7	-47 47	11.6	10.2	Ao	1	..	37577b
3	7458	11.5	-54 43	9.2	9.2	B <sub>9</sub>	3	..	19344b	53	9540	11.7	-52 37	9.5	9.6	A <sub>5</sub>	2	..	19344b
4	6694	11.5	-59 27	8.5	9.5	Go	4	..	19902b	54	7467	11.7	-54 57	9.73	9.4	Ao	3	..	19344b
5	5636	11.5	-61 17	9.9	9.9	B <sub>9</sub>	3	..	21769b	55	7872	11.7	-57 40	10.0	10.0	B <sub>9</sub>	2	..	19640b
6	3450	11.5	-64 19	9.0	9.0	B <sub>9</sub>	5	..	19902b	56	3283	11.7	-66 4	9.5	9.6	A <sub>2</sub>	2	..	42473b
7	3079	11.5	-67 9	8.3	9.3	Ko	5	..	42473b	57	1988	11.7	-72 3	10.3	10.3	Ao	3	..	14146b
8	768	11.6	+71 33	8.28	8.70	F <sub>5</sub>	3	..	37752i	58	1878	11.8	+56 33	9.6	10.4	G <sub>5</sub>	1	..	38767i
9	1951	11.6	+52 13	9.3	10.3	Ko	1	..	38766i	59	2321	11.8	+47 8	8.8	9.8	Ko	2	..	37730i
10	2809	11.6	+25 59	8.2	9.2	Ko	2	..	38774i	60	..	11.8	+38 3	var.	var.	Md	..	R	M
11	3178	11.6	+9 20	9.1	10.1	Ko	2	..	19235b	61	3167	11.8	+7 57	8.5	9.3	G <sub>5</sub>	7	..	19235b
12	3165	11.6	+8 17	7.9	8.7	G <sub>5</sub>	8	..	19235b	62	3148	11.8	+4 1	9.1	9.7	Go	2	..	17083b
13	3194	11.6	+5 59	9.8	10.4	Go	2	..	19235b	63	3190	11.8	+1 32	9.1	9.2	A <sub>3</sub>	4	..	17083b
14	3910	11.6	-3 42	6.12	6.40	Fo	5	..	41735b	64	3191	11.8	+1 26	9.5	10.1	Go	1	..	17083b
15	4327	11.6	-21 55	10.2	10.5	Ko	1	..	40316b	65	3485	11.8	+0 51	9.49	9.49	Ao	3	..	17083b
16	4139	11.6	-22 49	10.0	10.4	Go	1	..	40316b	66	4143	11.8	-22 15	9.5	9.9	K <sub>2</sub>	2	..	40316b
17	12832	11.6	-23 37	10.5	10.2	A <sub>3</sub>	2	..	40316b	67	12833	11.8	-23 54	9.3	9.9	Ko	2	..	40316b
18	13013	11.6	-30 14	10.5	10.3	Ao	2	..	39300b	68	12750	11.8	-31 20	9.1	9.2	A <sub>2</sub>	4	..	39300b
19	11178	11.6	-42 13	10.3	10.4	Ko	1	..	23764b	69	12749	11.8	-31 24	8.2	8.1	Ao	6	..	39300b
20	10699	11.6	-49 1	9.3	9.0	Ao	3	..	23045b	70	10728	11.8	-36 45	9.5	10.4	Go	1	..	14373b
21	10524	11.6	-49 55	8.20	8.1	B <sub>9</sub>	4	..	20092b	71	11184	11.8	-42 41	11.0	10.4	Fo	1	..	23764b
22	10374	11.6	-50 51	9.9	9.0	Fo	4	..	19344b	72	10761	11.8	-44 51	9.7	9.3	F <sub>8</sub>	4	..	23764b
23	10375	11.6	-50 59	10.3	9.4	B <sub>9</sub>	2	..	19344b	73	10646	11.8	-47 47	9.3	9.9	Ko	2	..	37577b
24	9538	11.6	-52 11	8.5	8.8	B <sub>9</sub>	6	..	19344b	74	10529	11.8	-50 2	10.3	9.7	B <sub>8</sub>	3	..	21832b
25	9535	11.6	-52 28	8.0	8.8	Ko	4	..	19344b	75	10376	11.8	-50 57	10.3	9.3	B <sub>9</sub>	3	..	19344b
26	9536	11.6	-52 48	8.9	8.4	B <sub>8</sub>	7	..	19344b	76	10003	11.8	-51 35	11.6	9.9	A <sub>5</sub>	2	..	19344b
27	7724	11.6	-53 12	10.0	10.0	Ao	2	..	19344b	77	9555	11.8	-52 50	8.8	8.7	B <sub>5</sub>	6	..	19344b
28	7463	11.6	-54 38	8.9	8.2	B <sub>9</sub>	7	..	19344b	78	7732	11.8	-53 8	9.1	9.1	B <sub>9</sub>	4	..	19344b
29	7392	11.6	-55 5	9.4	9.4	B <sub>8</sub>	4	..	19344b	79	5286	11.8	-62 25	8.9	9.5	Go	5	..	21769b
30	7563	11.6	-56 23	9.3	9.4	A <sub>2</sub>	5	..	19640b	80	3886	11.8	-63 5	8.5	8.5	B <sub>8</sub>	7	..	21769b
31	7866	11.6	-57 56	9.5	9.5	B <sub>8</sub>	3	..	37619b	81	3451	11.8	-64 45	9.7	9.7	Ao	2	..	19902b
32	6495	11.6	-60 49	8.5	9.9	K <sub>2</sub>	3	..	21769b	82	3284	11.8	-65 37	9.6	9.6	Ao	2	..	42473b
33	5637	11.6	-61 22	8.1	8.9	B <sub>8</sub>	8	..	21769b	83	3082	11.8	-67 5	8.3	8.7	F <sub>5</sub>	6	..	42473b
34	2929	11.6	-66 33	8.9	9.9	Ko	4	..	42473b	84	1989	11.8	-71 41	8.0	9.1	K <sub>2</sub>	4	..	42473b
35	2378	11.7	+48 7	8.2	8.5	Fo	2	5.4	37316i	85	718	11.9	+72 39	7.78	7.78	Ao	6	..	37752i
36	2780	11.7	+30 27	9.5	9.6	A <sub>5</sub>	1	..	38774i	86	2385	11.9	+45 42	8.6	8.9	Fo	4	..	37730i
37	2613	11.7	+27 41	6.30	7.37	K <sub>2</sub>	5	2.5	38774i	87	3056	11.9	+25 32	8.5	9.5	Ko	1	..	38774i
38	3234	11.7	+20 44	8.3	9.3	Ko	1	..	38771i	88	3076	11.9	+19 45	7.70	8.26	Go	5	..	38771i
39	2982	11.7	+10 31	8.3	8.7	F <sub>5</sub>	5	..	19235b	89	4328	11.9	-21 39	8.7	9.0	Ko	4	..	40316b
40	3126	11.7	+7 47	9.5	10.3	G <sub>5</sub>	2	..	19235b	90	4144	11.9	-22 39	10.0	9.7	Fo	3	..	40316b
41	3189	11.7	+1 6	9.5	10.5	Ko	1	..	17083b	91	12660	11.9	-24 39	9.4	9.6	Ko	3	..	40316b
42	4267	11.7	-5 59	9.2	10.0	G <sub>5</sub>	3	..	41229b	92	12752	11.9	-31 22	9.6	10.3	G <sub>5</sub>	1	..	39300b
43	4389	11.7	-15 5	7.41	7.69	Fo	8	..	40589b	93	11593	11.9	-32 44	8.1	8.0	Fo	5	..	14373b
44	4291	11.7	-15 12	9.21	9.49	Fo	3	..	40589b	94	11068	11.9	-33 24	9.5	9.9	F <sub>5</sub>	3	..	39300b
45	10921	11.7	-34 40	7.48	8.8	K <sub>5</sub>	5	..	14373b	95	10705	11.9	-48 28	9.2	8.4	Ao	2	..	20092b
46	10727	11.7	-36 19	7.73	7.8	F <sub>8</sub>	8	..	14373b	96	9561	11.9	-52 32	8.0	8.1	B <sub>5</sub>	7	..	19344b
47	10942	11.7	-38 33	9.5	9.6	Ao	4	..	14373b	97	7737	11.9	-53 16	8.3	8.8	A <sub>2</sub>	7	..	19344b
48	10390	11.7	-39 30	11.9	11.0	G <sub>5</sub>	2	..	21440b	98	7473	11.9	-54 51	9.2	8.8	B <sub>5</sub>	4	..	19344b
49	11182	11.7	-42 12	11.0	10.7	A <sub>2</sub>	2	..	23764b	99	7876	11.9	-57 57	10.0	10.0	B <sub>8</sub>	2	..	37619b
50	11181	11.7	-42 28	10.1	10.1	Go	2	..	23764b	100	3888	11.9	-63 29	8.5	8.5	B <sub>9</sub>	6	..	21769b



THE HENRY DRAPER CATALOGUE.

146600

16<sup>h</sup> 11<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
		m.	°									m.	°						
1	2931	11.9	-66 47	9.7	9.7	Ao	3	..	42473b	51	10394	12.2	-39 43	11.0	11.0	Go	3	..	2144ob
2	2204	11.9	-70 45	9.0	10.0	Ko	4	..	14146b	52	10604	12.2	-41 4	9.5	10.1	Go	3	..	23764b
3	930	12.0	+67 24	6.28	7.28	Ko	..	0,8	56,93	53	9573	12.2	-53 0	8.4	9.1	Ko	5	..	19344b
4	2916	12.0	+23 22	6.59	7.59	Ko	7	0,8	38777i	54	7415	12.2	-55 42	9.9	10.0	A2	2	..	1964ob
5	3150	12.0	+ 4 6	9.5	9.8	F2	1	..	17083b	55	6749	12.2	-58 20	8.5	9.8	Ao	3	..	37619b
6	10893	12.0	-27 48	6.84	7.6	Ao	..	1,8	56,138	56	1991	12.2	-71 7	8.7	9.7	Ko	4	..	14146b
7	13018	12.0	-30 43	10.3	9.9	Ao	1	..	39300b	57	1658	12.3	+57 44	9.3	10.4	K2	2	..	38767i
8	11594	12.0	-32 28	10.8	11.1	G5	1	..	39300b	58	2715	12.3	+36 7	8.0	9.2	K5	2	..	38504i
9	11071	12.0	-33 46	8.8	9.5	Go	5	..	39300b	59	4270	12.3	- 5 53	8.3	9.5	K5	3	..	41229b
10	10944	12.0	-38 24	8.6	9.2	Go	5	..	14373b	60	4345	12.3	- 9 53	8.8	9.8	Ko	4	..	40589b
11	10635	12.0	-46 24	9.7	9.3	A3	4	..	37577b	61	4471	12.3	-12 12	9.8	10.6	G5	1	..	40589b
12	10651	12.0	-47 17	10.1	9.6	A2	4	..	37577b	62	4394	12.3	-13 8	7.37	8.37	Ko	7	..	40589b
13	10706	12.0	-48 46	10.1	10.5	Ko	1	..	37577b	63	4146	12.3	-22 54	10.0	10.2	G5	2	..	40316b
14	7744	12.0	-53 21	9.4	9.4	B9	4	..	19344b	64	13023	12.3	-30 53	9.6	9.8	Ao	3	..	39300b
15	7745	12.0	-53 33	10.2	10.2	Ao	3	..	21832b	65	10396	12.3	-39 10	10.8	11.2	Ko	1	..	2144ob
16	7479	12.0	-54 46	9.4	9.5	A2	3	..	19344b	66	10606	12.3	-41 46	11.2	10.7	A2	1	..	23764b
17	7881	12.0	-58 2	8.5	8.8	Go	4	..	37619b	67	11188	12.3	-42 26	5.62	6.5	A2	..	0,8R	56,138
18	2932	12.0	-66 18	9.1	10.1	Ko	1	..	39343b	68	7756	12.3	-53 56	10.0	10.0	B9	2	..	19344b
19	2677	12.0	-68 59	9.7	9.7	Ao	3	..	42473b	69	7488	12.3	-54 20	8.7	8.2	Fo	6	..	19344b
20	2684	12.1	+41 35	9.2	10.0	G5	2	..	37730i	70	7573	12.3	-56 53	9.1	10.0	Ko	2	..	1964ob
21	2713	12.1	+35 53	8.5	9.0	F8	3	..	38504i	71	2380	12.4	+48 33	8.7	9.9	K5	1	..	38766i
22	2799	12.1	+29 51	8.36	8.78	F5	2	..	38774i	72	2801	12.4	+29 9	8.8	9.3	F8	2	..	38774i
23	4395	12.1	- 6 26	9.8	10.1	Fo	4	..	41229b	73	3169	12.4	+ 8 41	10.1	10.5	F5	2	..	19235b
24	12037	12.1	-28 22	4.87	4.87	Ao	..	R	56,93	74	3192	12.4	+ 1 45	9.3	9.8	F8	1	..	17083b
25	11073	12.1	-33 53	10.1	10.4	Ao	2	..	39300b	75	3486	12.4	+ 0 41	9.5	10.1	Go	2	..	17083b
26	10872	12.1	-35 10	8.58	9.1	F2	6	..	14373b	76	4347	12.4	- 9 15	9.5	10.5	Ko	2	..	41229b
27	10602	12.1	-41 25	9.2	10.4	K2	1	..	23764b	77	4395	12.4	-13 12	7.26	7.54	Fo	8	..	40589b
28	10531	12.1	-49 31	10.3	9.9	Bo	1	..	37577b	78	4147	12.4	-23 3	10.0	9.9	F5	2	..	40316b
29	10382	12.1	-50 6	11.0	9.9	B8	2	..	21832b	79	10929	12.4	-34 30	9.1	10.2	K2	2	..	39300b
30	10383	12.1	-50 47	7.4	7.7	K2	7	2,8	23045b	80	10731	12.4	-36 38	9.5	10.5	F8	1	..	14373b
31	10010	12.1	-51 56	10.3	9.3	A3	3	..	19344b	81	10309	12.4	-40 34	8.5	8.9	A5	7	..	23764b
32	7752	12.1	-53 31	9.9	11.3	Mb	1	..	21832b	82	10768	12.4	-44 24	9.3	10.8	K5	1	..	23764b
33	7889	12.1	-57 9	8.9	10.5	K2	1	..	1964ob	83	10708	12.4	-48 17	8.3	8.4	A2	3	..	20092b
34	6748	12.1	-58 13	8.9	8.4	B8	6	..	37619b	84	10538	12.4	-49 4	8.1	8.4	K2	3	..	20092b
35	3285	12.1	-65 5	9.0	10.1	K2	1	..	39343b	85	10535	12.4	-49 24	10.3	9.6	Ao	3	..	37577b
36	1540	12.1	-74 38	8.2	9.2	Ko	3	..	11726b	86	10536	12.4	-49 55	4.14	6.4	Ko	..	0,9R	28,211
37	468	12.2	+83 40	8.4	9.2	G5	6	0,3	37813i	87	10391	12.4	-50 53	11.0	9.9	A	1	..	19344b
38	2323	12.2	+47 17	7.92	8.92	Ko	5	5,4	37730i	88	7765	12.4	-53 53	9.6	10.2	Go	1	..	19344b
39	2714	12.2	+36 48	7.11	8.29	K5	3	..	38504i	89	7490	12.4	-54 41	9.1	9.1	B9	5	..	19344b
40	2541	12.2	+28 48	9.1	9.9	G5	2	..	38774i	90	7493	12.4	-54 54	5.91	7.1	Ko	..	..	56,138
41	3057	12.2	+25 50	8.8	9.3	F8	2	..	38774i	91	7578	12.4	-56 36	8.9	9.2	Go	6	..	1964ob
42	2972	12.2	+15 1	8.54	9.32	G5	2	..	38782i	92	5288	12.4	-62 39	9.8	9.8	Ao	2	..	21769b
43	3104	12.2	+13 36	8.0	9.1	K2	2	..	38782i	93	3287	12.4	-65 15	9.4	9.9	F8	1	..	39343b
44	3128	12.2	+ 7 24	8.5	9.3	G5	7	..	19235b	94	2934	12.4	-66 17	9.1	9.9	G5	1	..	39343b
45	3196	12.2	+ 6 29	9.1	10.1	Ko	3	..	19235b	95	2530	12.4	-69 4	9.3	9.7	F5	1	..	39343b
46	4293	12.2	-15 19	9.8	9.9	A5	2	..	40589b	96	2559	12.5	+44 48	8.72	9.28	Go	3	..	37730i
47	4145	12.2	-22 28	10.0	9.9	F5	3	..	40316b	97	3236	12.5	+20 3	8.60	9.60	Ko	2	..	38777i
48	12433	12.2	-29 23	9.8	10.3	G5	1	..	40611b	98	3077	12.5	+19 6	7.56	8.63	K2	4	..	38777i
49	11075	12.2	-33 53	10.1	9.8	Ao	2	..	39300b	99	3488	12.5	+ 0 16	9.1	9.2	A2	3	..	17083b
50	10874	12.2	-35 23	9.5	10.2	Go	2	..	39300b	100	3915	12.5	- 3 47	8.4	8.8	F5	3	..	41735b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

146700

16<sup>h</sup> 12<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
		m.	°									m.	°						
1	4271	12.5	- 5 17	9.30	10.30	Ko	2	..	41533b	51	9589	12.7	-52 10	9.2	9.7	B9	2	..	19344b
2	4254	12.5	- 7 9	9.2	9.2	Ao	4	..	41229b	52	7585	12.7	-56 27	9.2	9.2	F8	4	..	19640b
3	4255	12.5	- 8 2	8.8	8.9	A5	4	..	41229b	53	3457	12.7	-64 10	8.7	9.7	Ko	3	..	19902b
4	4202	12.5	- 8 23	10.0	10.8	G5	2	..	41229b	54	2684	12.7	-68 33	9.3	9.4	A2	5	..	42473b
5	4104	12.5	-11 49	9.2	10.0	G5	2	..	40589b	55	2533	12.7	-69 7	9.2	9.1	B5	5	..	42473b
6	4148	12.5	-23 2	7.49	7.4	Ao	9	..	40316b	56	941	12.8	+66 52	8.2	8.8	Go	4	..	37746i
7	10312	12.5	-40 42	8.5	8.9	B9	7	..	23764b	57	1259	12.8	+63 47	9.2	9.8	Go	3	..	37746i
8	10688	12.5	-43 6	8.6	9.3	Ao	7	..	23764b	58	2993	12.8	+40 36	9.2	10.0	G5	1	..	37730i
9	10689	12.5	-43 10	9.3	10.2	Ao	4	..	23764b	59	2919	12.8	+16 41	8.5	9.3	G5	1	..	38782i
10	10570	12.5	-46 1	9.3	9.3	Ao	4	..	21842b	60	3170	12.8	+ 7 58	7.7	8.7	Ko	7	..	19235b
11	10644	12.5	-46 58	7.9	7.9	Fo	4	..	20092b	61	13030	12.8	-30 11	8.48	8.7	A2	6	..	40611b
12	9582	12.5	-52 30	8.9	9.7	G5	2	..	19344b	62	11608	12.8	-32 5	9.5	11.1	Ko	1	..	39300b
13	6499	12.5	-60 14	9.28	9.3	A5	5	..	21769b	63	10732	12.8	-36 58	9.7	10.5	Go	1	..	14373b
14	5289	12.5	-62 22	8.7	9.0	Fo	4	..	21769b	64	10714	12.8	-48 4	9.9	9.4	Ao	4	..	37577b
15	940	12.6	+66 23	9.0	9.4	F5	3	..	37746i	65	10401	12.8	-50 50	11.6	9.9	G5	2	..	19344b
16	2381	12.6	+48 11	8.2	9.2	Ko	2	..	37730i	66	7780	12.8	-53 37	9.5	10.3	G5	3	..	21832b
17	3131	12.6	+ 6 58	10.1	10.7	G	1	..	19235b	67	7779	12.8	-53 51	10.6	10.6	Ao	2	..	21832b
18	3159	12.6	+ 3 17	9.1	9.7	Go	1	..	17083b	68	6700	12.8	-59 35	10.0	10.1	A2	1	..	19902b
19	4257	12.6	- 7 26	8.8	9.8	Ko	3	..	41229b	69	6502	12.8	-60 25	8.8	9.8	G5	4	..	21769b
20	4473	12.6	-12 41	9.3	10.1	G5	3	..	40589b	70	6501	12.8	-60 54	9.8	9.8	Ao	4	..	21769b
21	13028	12.6	-30 16	8.0	8.6	Ao	7	..	40611b	71	1721	12.8	-73 56	8.5	9.5	Ko	1	..	11726b
22	13027	12.6	-30 42	7.9	9.8	Ko	3	..	39300b	72	3179	12.9	+ 9 11	10.1	10.2	A2	2	..	19235b
23	11084	12.6	-33 34	11.0	9.9	Go	2	R	17050b	73	3166	12.9	- 2 2	8.32	8.40	A3	5	..	41533b
24	10876	12.6	-35 29	9.7	10.8	K2	1	..	39300b	74	4149	12.9	-22 31	9.3	9.6	G5	2	..	40316b
25	10394	12.6	-50 36	9.2	9.7	Ko	2	..	19344b	75	10902	12.9	-28 3	7.5	8.1	Go	6	..	40611b
26	10395	12.6	-51 0	9.5	8.7	B9	6	0.4	19344b	76	13032	12.9	-30 23	8.8	9.2	F8	3	..	39300b
27	10022	12.6	-51 23	10.6	9.3	A2	2	..	19344b	77	11191	12.9	-42 21	10.3	9.8	A3	4	..	23764b
28	10021	12.6	-51 36	9.3	9.3	Ko	3	..	19344b	78	11194	12.9	-42 47	9.9	9.5	A2	5	..	23764b
29	7425	12.6	-55 48	9.2	9.7	F8	2	..	19640b	79	10650	12.9	-47 0	7.9	9.3	K2	4	..	21842b
30	7900	12.6	-58 1	10.5	10.5	Ao	1	..	19640b	80	10026	12.9	-51 4	10.6	9.6	B9	1	..	19344b
31	6754	12.6	-58 29	10.1	10.1	B9	1	..	19640b	81	10027	12.9	-51 55	11.6	10.2	B9	2	..	21832b
32	5642	12.6	-61 30	10.9	11.0	A2	4	..	21769b	82	7785	12.9	-54 3	9.9	10.2	Fo	2	..	19344b
33	3289	12.6	-65 20	9.0	10.1	K2	3	..	42473b	83	7592	12.9	-56 28	10.0	10.0	Ao	2	..	19640b
34	897	12.6	-79 52	9.0	10.0	Ko	1	..	43458b	84	7907	12.9	-57 6	9.0	9.1	A2	4	..	19640b
35	1660	12.7	+57 16	8.2	8.8	Go	4	..	38767i	85	6757	12.9	-58 16	9.3	9.6	Fo	2	..	19640b
36	1952	12.7	+52 17	9.1	9.9	G5	2	..	38766i	86	3893	12.9	-63 20	8.7	8.7	B9	5	..	21769b
37	2746	12.7	+38 37	8.7	9.0	F2	1	..	38504i	87	3894	12.9	-63 55	9.1	9.1	B9	4	..	19902b
38	2803	12.7	+29 23	5.73	5.73	Ao	9	2.9 R	38774i	88	1300	12.9	-75 44	8.5	9.5	Ko	2	..	11726b
39	3132	12.7	+ 7 16	8.3	9.3	Ko	6	..	19235b	89	2718	13.0	+36 45	8.5	8.9	F5	2	..	38504i
40	3194	12.7	+ 1 44	6.59	7.59	Ko	8	..	17083b	90	2983	13.0	+10 33	8.0	8.1	A2	8	..	19235b
41	4534	12.7	-17 8	7.20	7.54	F2	7	..	11483b	91	4086	13.0	- 4 27	3.34	4.34	Ko	..	R	1881c
42	4460	12.7	-21 2	10.2	10.5	Ko	1	..	40316b	92	4107	13.0	-11 40	9.3	9.7	F5	4	..	40589b
34	4330	12.7	-21 21	8.6	9.0	F2	5	..	40316b	93	4398	13.0	-13 32	10.0	10.8	G5	1	..	40589b
44	11087	12.7	-33 24	9.5	9.9	Go	3	..	39300b	94	4396	13.0	-14 15	10.2	11.3	K2	1	..	40589b
45	10877	12.7	-35 15	6.72	7.6	F2	10	..	14373b	95	4265	13.0	-16 12	8.8	8.9	A2	6	..	40589b
46	10400	12.7	-39 45	10.5	10.4	Ao	3	..	21440b	96	13034	13.0	-30 28	9.0	10.3	Ko	1	0.1	39300b
47	10694	12.7	-43 10	10.1	10.4	F2	2	..	23764b	97	10734	13.0	-36 10	9.1	9.6	F8	4	..	14373b
48	10398	12.7	-50 15	10.6	9.3	B8	3	..	19344b	98	10775	13.0	-44 27	11.6	10.4	Ao	2	..	23764b
49	10024	12.7	-51 14	10.3	9.7	Ko	1	..	19344b	99	10652	13.0	-46 6	7.7	7.8	Ao	5	..	20092b
50	10023	12.7	-51 54	9.3	9.6	Ko	3	..	19344b	100	10664	13.0	-47 58	9.3	9.6	K2	2	..	23045b

## THE HENRY DRAPER CATALOGUE.

146800

16<sup>h</sup> 13<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10406	13.0	-50 21	10.6	9.3	Ao	3	..	19344b	51	11473	13.3	-25 31	8.2	8.9	G5	6	..	40316b
2	10407	13.0	-50 46	9.2	8.4	Ao	6	0,4	19344b	52	12445	13.3	-29 43	8.2	8.9	F8	5	..	40611b
3	10030	13.0	-51 15	11.6	9.3	B9	2	..	19344b	53	11620	13.3	-32 40	8.8	10.3	Ko	2	..	39300b
4	10032	13.0	-51 21	11.0	9.3	Ao	1	..	19344b	54	11097	13.3	-33 55	8.8	8.4	Ao	5	..	39300b
5	9604	13.0	-52 8	9.0	9.1	B5	4	..	19344b	55	10700	13.3	-43 29	9.5	9.9	G5	3	..	23764b
6	7789	13.0	-53 43	10.1	10.9	G5	2	..	21832b	56	10582	13.3	-46 2	10.1	9.9	G5	1	..	21842b
7	7520	13.0	-54 40	8.0	7.8	A3	..	2,8	56,138	57	10668	13.3	-47 29	9.7	9.6	Ko	1	..	21842b
8	7593	13.0	-57 2	9.0	10.0	K2	1	..	19640b	58	10667	13.3	-48 3	11.0	10.4	A2	1	..	37577b
9	6505	13.0	-60 13	9.58	9.8	Ao	4	..	21769b	59	10415	13.3	-50 7	10.3	9.6	A5	4	..	21832b
10	5292	13.0	-62 21	9.8	9.9	A2	4	..	21769b	60	10036	13.3	-51 46	11.0	9.9	A3	3	..	21832b
11	5294	13.0	-62 45	9.5	9.6	A2	3	..	21769b	61	9614	13.3	-52 28	8.8	9.4	G5	3	..	19344b
12	1626	13.1	+58 8	8.8	9.3	F8	4	..	38767i	62	7802	13.3	-53 5	9.0	10.0	Ko	3	..	19344b
13	1879	13.1	+56 4	9.1	9.1	B8	4	..	38767i	63	7805	13.3	-53 21	10.6	10.6	B8	2	..	21832b
14	2388	13.1	+44 54	9.02	9.58	Go	2	..	37730i	64	7918	13.3	-57 57	9.5	10.5	Ko	1	..	19640b
15	3198	13.1	+6 19	7.6	8.6	Ko	7	..	19235b	65	3900	13.3	-63 57	9.0	10.1	K2	1	..	19902b
16	4396	13.1	-6 45	9.5	10.3	G5	3	..	41229b	66	3290	13.3	-65 45	9.3	9.3	B8	5	..	42473b
17	10317	13.1	-40 34	7.3	8.0	Go	9	..	23764b	67	2941	13.3	-66 39	9.3	9.3	Ao	4	..	42473b
18	10614	13.1	-41 56	10.5	10.1	B9	2	..	23764b	68	1574	13.4	+60 54	7.56	8.34	G5	5	..	37746i
19	10033	13.1	-51 21	11.0	9.3	Ao	3	..	19344b	69	1803	13.4	+54 40	9.3	10.1	G5	1	..	38767i
20	7598	13.1	-56 37	9.2	10.0	G5	1	..	19640b	70	1856	13.4	+53 29	7.04	7.32	Fo	8	5,6	38767i
21	7911	13.1	-57 38	9.7	9.7	Ao	1	..	19640b	71	2995	13.4	+40 15	6.87	7.94	K2	5	..	37730i
22	7909	13.1	-57 41	10.5	10.5	Ao	1	..	19640b	72	3155	13.4	+18 1	7.9	7.9	Ao	5	..	38771i
23	6759	13.1	-58 9	9.2	9.3	A2	3	..	19640b	73	2975	13.4	+15 46	8.5	9.5	Ko	1	E	38727i
24	5647	13.1	-61 22	8.3	9.6	K2	4	..	21769b	74	3110	13.4	+13 17	8.0	8.1	A3	3	..	38727i
25	3459	13.1	-64 7	8.9	9.0	A5	4	..	19902b	75	3135	13.4	+7 34	8.7	9.5	G5	4	..	19235b
26	2939	13.1	-66 7	9.2	10.6	Ma	1	..	39343b	76	3196	13.4	+1 7	9.8	10.8	K	2	R	17083b
27	2940	13.1	-66 39	6.90	7.1	B9	10	..	42473b	77	4205	13.4	-8 50	8.4	9.2	G5	5	..	41229b
28	2747	13.2	+38 52	8.04	9.11	K2	1	..	38504i	78	4292	13.4	-10 33	9.5	9.8	Fo	3	..	40589b
29	2805	13.2	+29 40	7.51	7.79	Fo	4	0,3	38774i	79	4267	13.4	-16 47	9.8	9.8	Ao	2	..	11483b
30	2545	13.2	+27 54	7.8	7.8	Ao	5	0,5	38774i	80	10940	13.4	-34 17	9.2	9.3	Ao	5	..	14373b
31	2896	13.2	+21 11	9.4	10.2	G5	1	..	38771i	81	10408	13.4	-39 12	9.1	8.9	G5	4	..	14373b
32	4291	13.2	-11 3	9.0	10.1	K2	1	..	40589b	82	10615	13.4	-41 26	8.5	9.2	F8	4	..	23764b
33	4108	13.2	-11 16	8.6	9.6	Ko	4	..	40589b	83	10701	13.4	-43 55	10.1	9.9	Ao	4	..	23764b
34	4357	13.2	-19 59	6.38	7.6	Ko	5	0,8	36136b	84	10584	13.4	-45 34	8.7	9.3	Go	7	..	23764b
35	13040	13.2	-30 39	7.2	8.3	F8	7	..	39300b	85	10417	13.4	-50 4	10.6	10.5	K2	1	..	21832b
36	13041	13.2	-30 40	5.42	7.0	F2	..	..	56,138	86	10041	13.4	-51 9	11.0	9.6	B9	2	..	19344b
37	12771	13.2	-31 51	9.6	10.3	F8	1	..	39300b	87	10039	13.4	-51 41	11.0	10.5	Ma	1	..	21832b
38	10405	13.2	-39 17	8.5	10.3	K2	3	0,1	21440b	88	7811	13.4	-53 21	10.2	10.5	Fo	2	..	21832b
39	10698	13.2	-43 8	8.6	8.7	B9	7	..	23764b	89	7533	13.4	-54 22	10.0	10.0	Ao	5	..	19344b
40	10549	13.2	-49 16	10.6	9.9	B3	3	..	37577b	90	7451	13.4	-55 35	10.0	10.0	B9	2	..	19640b
41	10551	13.2	-49 54	9.01	8.4	Ao	3	..	23045b	91	7604	13.4	-56 14	9.7	9.7	Ao	4	..	19640b
42	10409	13.2	-50 30	9.7	9.6	Ko	2	..	19344b	92	7603	13.4	-56 27	9.6	10.2	Go	1	..	19640b
43	7522	13.2	-54 21	8.8	8.8	B9	7	..	19344b	93	2536	13.4	-69 55	6.93	8.3	Ko	7	..	42473b
44	7446	13.2	-55 48	10.0	10.0	Ao	1	..	19640b	94	2389	13.5	+45 19	8.7	9.7	Ko	2	..	37730i
45	7599	13.2	-56 35	8.4	9.7	Ma	2	..	19640b	95	3199	13.5	+1 14	9.8	10.8	Ko	1	..	17083b
46	2692	13.2	-68 53	9.1	10.3	K5	1	..	42473b	96	4350	13.5	-9 36	9.8	10.4	Go	1	..	41229b
47	1937	13.2	-72 21	8.1	9.1	Ko	3	..	42473b	97	4334	13.5	-21 10	8.9	9.0	F2	4	..	40316b
48	3199	13.3	+6 22	8.1	9.2	K2	5	..	19235b	98	12666	13.5	-24 36	9.6	9.8	F5	2	..	40316b
49	3090	13.3	-0 37	9.8	9.9	A5	3	..	41533b	99	11287	13.5	-26 38	11.0	10.1	A	1	..	40316b
50	4398	13.3	-14 38	6.06	7.06	Ko	9	..	40589b	100	12449	13.5	-29 12	9.3	11.1	K5	1	..	40611b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

146900

16<sup>h</sup> 13<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10890	13.5	-35 58	8.9	9.3	F8	4	..	14373b	51	4299	13.8	-15 57	9.8	9.9	A3	2	..	40589b
2	10888	13.5	-36 3	8.3	9.3	F8	6	..	14373b	52	4260	13.8	-18 35	6.89	6.89	Ao	9	..	11483b
3	10738	13.5	-36 20	9.4	9.6	B9	4	..	14373b	53	10891	13.8	-35 27	9.2	10.0	F2	2	..	39300b
4	10956	13.5	-38 41	8.8	10.7	Ko	2	..	21440b	54	10412	13.8	-39 11	6.22	6.3	Ao	8	..	43871b
5	10410	13.5	-39 16	7.12	7.0	Ao	5	1,8	43871b	55	9643	13.8	-52 20	9.2	9.1	B5	2	..	19344b
6	10411	13.5	-39 24	7.08	7.3	G5	7	..	14373b	56	7614	13.8	-56 27	9.2	9.2	Ao	5	..	19640b
7	10321	13.5	-40 25	10.1	10.4	F5	3	..	23764b	57	7929	13.8	-57 20	8.3	8.2	B9	8	..	19640b
8	10704	13.5	-43 36	9.9	10.1	B9	3	..	23764b	58	5299	13.8	-62 20	7.8	8.6	G5	8	..	21769b
9	10669	13.5	-47 19	10.1	9.6	F5	1	..	21842b	59	2734	13.9	+37 9	8.7	9.7	Ko	2	..	38504i
10	10420	13.5	-50 19	11.6	10.2	Ao	2	..	21832b	60	3240	13.9	+20 31	8.2	9.3	K2	1	..	38771i
11	9621	13.5	-52 14	7.5	7.1	Ko	7	..	19344b	61	2976	13.9	+15 47	8.5	9.1	Go	2	..	38727i
12	5652	13.5	-61 8	9.8	9.9	A2	3	..	21769b	62	4268	13.9	-16 40	9.5	10.7	K5	1	..	40589b
13	3903	13.5	-63 14	8.4	9.4	Ko	4	..	21769b	63	10732	13.9	-48 36	9.4	9.9	F8	2	..	37577b
14	2720	13.6	+35 56	8.8	9.9	K2	1	..	38504i	64	7462	13.9	-55 19	7.09	7.6	A2	..	0.5	56,138
15	2918	13.6	+23 51	7.19	8.26	K2	3	..	38771i	65	7615	13.9	-56 30	9.6	9.7	A2	4	..	19640b
16	3092	13.6	- 0 52	9.1	10.3	K5	1	..	41533b	66	5654	13.9	-61 5	9.1	9.2	B8	6	..	21769b
17	4206	13.6	- 8 13	10.7	11.7	Ko	1	..	41229b	67	808	13.9	-80 6	8.70	8.5	Ao	6	..	43458b
18	11103	13.6	-33 29	10.3	11.0	Ao	1	..	39300b	68	253	13.9	-87 40	9.9	11.0	K2	2	..	22980b
19	9626	13.6	-52 48	8.2	8.4	Bo	4	..	19344b	69	944	14.0	+66 38	8.2	9.2	Ko	3	..	37746i
20	9625	13.6	-52 52	8.0	8.2	B9	7	..	19344b	70	2390	14.0	+45 34	8.9	9.7	G5	2	..	37730i
21	9630	13.6	-52 52	8.1	8.4	B8	7	..	19344b	71	4353	14.0	- 9 23	8.6	8.6	Ao	6	..	41229b
22	7820	13.6	-53 4	9.4	9.4	Ao	3	..	19344b	72	4269	14.0	-16 14	8.8	9.8	Ko	3	..	40589b
23	6762	13.6	-58 49	10.0	10.1	A3	2	..	19640b	73	4464	14.0	-20 32	8.2	8.1	A5	6	..	40316b
24	6763	13.6	-59 2	9.8	9.9	A5	2	..	19640b	74	12056	14.0	-28 29	8.6	8.9	F8	3	..	40611b
25	1724	13.6	-73 18	8.4	9.5	K2	4	..	14146b	75	12055	14.0	-28 52	9.4	9.5	G5	2	..	40611b
26	594	13.7	+76 8	5.51	5.46	B8	..	1,8	56,93	76	12786	14.0	-31 12	10.1	9.8	Ao	2	..	39300b
27	1575	13.7	+61 1	9.6	10.2	G	1	..	37746i	77	10709	14.0	-43 52	9.9	10.6	K2	2	..	23764b
28	1662	13.7	+60 29	8.9	9.7	G5	2	..	37746i	78	10662	14.0	-46 54	8.6	8.5	A2	3	..	20092b
29	2758	13.7	+34 31	8.3	8.6	F2	2	..	38504i	79	10674	14.0	-48 0	11.6	10.1	A2	3	..	37577b
30	3137	13.7	+ 7 30	8.1	9.3	K5	4	..	19235b	80	10735	14.0	-48 18	8.0	9.6	Ma	2	..	37577b
31	4399	13.7	- 7 5	8.2	8.2	Ao	8	..	41229b	81	10054	14.0	-51 31	6.96	7.8	Ko	8	..	19344b
32	4258	13.7	- 7 38	9.0	10.0	Ko	3	..	41229b	82	7838	14.0	-53 33	9.6	10.6	Ko	2	R	21832b
33	4476	13.7	-12 48	10.0	10.8	G5	2	..	40589b	83	7548	14.0	-53 33	9.6	10.6	A3	2	..	19344b
34	4400	13.7	-13 37	10.0	10.1	A2	4	..	40589b	84	7549	14.0	-54 16	10.0	10.0	Ao	3	..	19344b
35	4300	13.7	-15 19	8.8	8.8	Ao	7	..	40589b	85	2943	14.0	-54 30	8.7	9.7	Ko	3	..	19344b
36	4208	13.7	-16 5	10.4	10.4	A	2	..	40589b	86	1303	14.0	-66 29	9.7	9.7	Ao	2	..	39343b
37	4151	13.7	-22 12	10.0	9.9	F8	2	..	40316b	87	933	14.1	-75 41	8.0	9.2	K5	3	..	11726b
38	12450	13.7	-29 7	10.8	10.4	A	1	..	40611b	88	1106	14.1	+67 30	9.0	10.0	Ko	2	..	37746i
39	10957	13.7	-38 22	9.5	10.7	A2	2	..	21440b	89	1628	14.1	+58 43	8.0	8.4	F5	6	..	37746i
40	10323	13.7	-40 42	10.8	11.0	A	1	..	23764b	90	2897	14.1	+21 17	8.1	8.5	F5	3	..	38767i
41	10784	13.7	-44 15	10.1	9.9	A3	4	..	23764b	91	3115	14.1	+13 45	8.5	9.9	Ma	1	..	38771i
42	9636	13.7	-52 35	8.9	9.7	G5	2	..	19344b	92	3179	14.1	+ 5 38	9.5	10.1	Go	3	..	38782i
43	6705	13.7	-59 34	9.2	9.2	Ao	5	..	19902b	93	4092	14.1	- 4 55	8.8	10.0	K5	2	..	19235b
44	1908	13.7	-71 35	9.4	9.7	F2	3	..	42473b	94	4354	14.1	- 9 9	9.8	10.4	Go	1	..	41533b
45	479	13.8	+82 44	9.3	9.7	F5	3	..	37820i	95	4110	14.1	-11 53	8.9	9.4	F8	5	..	41229b
46	2702	13.8	+32 2	6.93	7.49	Go	6	..	38774i	96	12667	14.1	-24 7	8.4	8.4	G5	5	..	40589b
47	3171	13.8	+ 8 52	8.7	8.8	A2	6	..	19235b	97	11477	14.1	-25 37	10.1	9.5	A2	3	..	40316b
48	3200	13.8	+ 6 32	8.7	9.1	F5	6	..	19235b	98	10893	14.1	-36 3	10.3	10.3	Go	2	..	14373b
49	4400	13.8	- 6 38	6.93	7.71	G5	8	..	41229b	99	10960	14.1	-38 26	10.5	10.7	B8	2	..	21440b
50	4301	13.8	-15 19	10.0	10.0	Ao	3	..	40589b	100									

## THE HENRY DRAPER CATALOGUE.

147000

16<sup>h</sup> 14<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10677	14.1	-47 57	6.68	7.0	B8	..	0,6	56,138	51	7852	14.4	-53 11	10.6	10.6	B9	2	..	21832b
2	7552	14.1	-55 0	8.93	8.9	A3	5	..	19344b	52	7470	14.4	-55 59	8.7	8.2	A0	7	..	19640b
3	2539	14.1	-69 50	9.7	9.7	A0	2	..	42473b	53	6708	14.4	-59 51	9.0	9.0	A0	6	..	19902b
4	2687	14.2	+41 41	8.4	9.5	K2	3	..	3773oi	54	5305	14.4	-62 54	8.9	9.0	A2	6	..	21769b
5	2722	14.2	+35 57	7.44	7.44	A0	7	..	38504i	55	720	14.5	+72 1	8.2	8.3	A3	3	..	37752i
6	2924	14.2	+16 52	8.0	9.0	K0	2	..	3877ii	56	2990	14.5	+24 3	8.9	10.0	K2	1	..	38774i
7	3173	14.2	+8 26	8.9	9.5	Go	5	..	19235b	57	3119	14.5	+12 58	8.1	8.2	A5	2	..	38782i
8	4401	14.2	-14 24	8.7	10.1	Ma	3	..	40589b	58	2993	14.5	+12 48	8.3	9.1	G5	2	..	38782i
9	4358	14.2	-19 48	8.8	8.2	B9	5	..	11483b	59	3183	14.5	+8 59	9.8	10.2	F5	2	..	19235b
10	4359	14.2	-19 49	7.24	8.1	B9	6	..	11483b	60	3174	14.5	+8 31	9.1	10.1	K0	1	..	19235b
11	4153	14.2	-22 17	10.7	10.2	F8	1	..	40316b	61	3203	14.5	+5 59	9.1	9.4	F0	4	..	19235b
12	11479	14.2	-25 22	10.5	9.5	A0	2	..	40316b	62	3180	14.5	+5 47	7.7	8.3	Go	8	..	19235b
13	11478	14.2	-25 25	9.1	8.9	A0	5	..	40316b	63	4339	14.5	-21 13	9.8	9.7	G	2	..	40316b
14	13052	14.2	-30 44	9.4	11.0	K5	1	..	39300b	64	11218	14.5	-42 33	11.0	10.7	A0	1	..	23764b
15	11634	14.2	-32 53	8.9	9.2	Go	3	..	39300b	65	10713	14.5	-43 20	8.9	9.9	K2	3	..	23764b
16	10739	14.2	-48 30	10.3	9.9	B8	2	..	37577b	66	10796	14.5	-44 42	7.7	7.8	K0	4	..	20092b
17	7842	14.2	-53 36	9.8	10.9	K2	2	..	21832b	67	10594	14.5	-45 31	8.9	8.8	A2	1	..	20092b
18	5655	14.2	-61 27	8.0	9.0	K0	8	..	21769b	68	10666	14.5	-46 52	8.5	8.4	A0	3	..	20092b
19	5656	14.2	-61 42	8.3	9.8	K0	3	..	21769b	69	10745	14.5	-48 55	8.1	7.9	A0	3	..	20092b
20	3469	14.2	-64 39	9.0	9.3	F0	3	..	19902b	70	10578	14.5	-49 26	8.1	9.0	K5	2	..	23045b
21	3293	14.2	-65 56	8.5	9.6	K2	6	..	42473b	71	10439	14.5	-50 5	9.1	8.7	A0	2	..	23045b
22	2214	14.2	-70 44	9.7	9.7	A0	2	..	42473b	72	10438	14.5	-51 0	10.1	9.0	A0	3	..	19344b
23	1107	14.3	+65 19	8.05	9.05	K0	5	..	37746i	73	9682	14.5	-52 5	9.0	9.3	F0	2	..	19344b
24	2326	14.3	+47 27	9.6	10.7	K2	1	..	38766i	74	7563	14.5	-54 5	8.2	8.2	K2	6	..	19344b
25	2817	14.3	+26 8	6.63	7.41	G5	3	..	3877oi	75	7566	14.5	-54 24	8.3	8.6	K2	7	..	19344b
26	3095	14.3	-0 27	9.1	9.6	F8	2	..	41533b	76	2698	14.5	-68 23	8.6	9.4	G5	2	..	42473b
27	3094	14.3	-0 33	9.5	10.1	G	1	..	41533b	77	685	14.5	-82 40	9.2	9.7	F8	2	..	13442b
28	4207	14.3	-8 20	10.2	11.2	K0	1	..	41229b	78	3185	14.6	+9 5	8.9	10.0	K2	3	..	19235b
29	4111	14.3	-11 41	9.5	10.1	Go	2	..	40589b	79	3138	14.6	+7 25	8.5	9.5	K0	6	..	19235b
30	4404	14.3	-13 19	9.5	10.7	K5	1	..	40589b	80	4404	14.6	-6 43	9.2	9.7	F8	4	..	41229b
31	4542	14.3	-17 15	9.5	10.3	G5	1	..	11483b	81	4209	14.6	-8 47	9.5	10.7	K5	1	..	41229b
32	12668	14.3	-24 53	9.1	9.8	K0	2	..	40316b	82	4355	14.6	-9 37	8.2	9.2	K0	5	..	41229b
33	10896	14.3	-35 39	9.5	10.3	F8	2	..	39300b	83	4338	14.6	-21 16	8.8	8.7	F0	6	..	40316b
34	11214	14.3	-42 38	9.7	9.5	Go	4	..	23764b	84	12849	14.6	-23 56	4.76	4.84	A3	..	R	28,211
35	10569	14.3	-49 14	9.5	8.7	F5	3	..	23045b	85	10968	14.6	-38 10	8.8	10.1	Go	5	..	21440b
36	10431	14.3	-50 38	11.0	9.9	B9	3	..	21832b	86	10749	14.6	-48 17	8.6	8.1	B9	3	..	20092b
37	10065	14.3	-51 58	11.0	9.3	B9	2	..	19344b	87	10748	14.6	-48 27	10.6	9.9	Go	2	..	37577b
38	7848	14.3	-53 8	9.2	8.5	B8	6	..	19344b	88	10442	14.6	-50 14	var.	var.	K2	3	R	21832b
39	7559	14.3	-54 53	9.7	9.7	B8	3	..	19640b	89	10075	14.6	-51 40	11.6	9.9	A0	1	..	19344b
40	7620	14.3	-56 11	8.0	9.2	K5	3	..	19640b	90	9685	14.6	-52 11	9.2	8.8	B8	3	..	19344b
41	6766	14.3	-58 24	9.8	9.8	B9	2	..	19640b	91	7939	14.6	-57 58	10.1	10.2	A3	1	..	19640b
42	769	14.3	-81 7	9.7	10.9	K5	1	..	43458b	92	332	14.6	-87 0	9.5	10.5	K0	2	..	22980b
43	606	14.3	-83 20	8.54	9.3	K0	4	..	13442b	93	1577	14.7	+61 7	8.0	9.0	K0	4	..	37746i
44	2759	14.4	+34 43	7.62	8.18	Go	6	..	38504i	94	1956	14.7	+52 37	8.8	9.8	K0	2	..	38766i
45	12059	14.4	-28 31	9.6	9.5	F2	2	..	40611b	95	2165	14.7	+45 58	9.2	10.0	G5	3	..	3773oi
46	12459	14.4	-29 17	7.62	7.9	A0	8	..	40611b	96	2926	14.7	+16 39	8.6	9.2	G	1	..	38727i
47	10414	14.4	-39 23	10.5	11.2	K2	1	..	21440b	97	3140	14.7	+7 16	10.1	11.1	K0	1	..	19235b
48	10329	14.4	-40 16	9.7	10.4	G5	2	..	21440b	98	3139	14.7	+7 5	10.1	10.7	Go	2	..	19235b
49	9668	14.4	-52 29	7.5	7.3	B2	7	R	19344b	99	4160	14.7	-2 47	8.6	9.6	K0	3	..	41533b
50	9672	14.4	-52 53	8.7	9.7	K0	1	..	19344b	100	4112	14.7	-11 43	9.5	10.1	Go	4	..	40589b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

147100

16<sup>h</sup> 14<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4406	14.7	-13 27	8.8	9.1	Fo	6	..	40589b	51	10685	15.0	-47 44	10.6	9.9	A2	2	..	21842b
2	4266	14.7	-18 27	8.2	9.3	K2	4	..	11483b	52	10591	15.0	-49 20	5.49	5.6	B5	..	0,10	28,211
3	4361	14.7	-19 53	7.10	7.2	Ao	7	R	11483b	53	10590	15.0	-49 43	9.9	9.0	Ao	3	..	23045b
4		14.7	-19 53			A				54	10448	15.0	-50 9	11.6	9.9	Ao	3	..	21832b
5	11483	14.7	-25 9	8.95	8.9	Ao	5	..	40316b	55	9700	15.0	-52 7	8.6	9.6	Ko	3	..	21832b
6	10715	14.7	-43 29	9.7	9.9	B9	3	..	23764b	56	7584	15.0	-54 48	8.01	7.9	B9	3	1,8	36341b
7	10445	14.7	-50 22	10.6	9.9	K2	3	..	21832b	57	6717	15.0	-59 54	8.58	8.9	Ao	6	..	19902b
8	10444	14.7	-50 45	11.0	10.2	Go	2	..	21832b	58	5308	15.0	-62 42	8.8	8.8	Ao	5	..	21769b
9	7862	14.7	-53 57	10.5	10.5	Ao	2	..	19344b	59	5309	15.0	-62 52	9.2	9.3	A2	4	..	21769b
10	6712	14.7	-59 10	9.2	9.6	Ao	3	..	19640b	60	1665	15.1	+57 10	7.9	8.2	F2	7	..	38767i
11	525	14.7	-84 46	8.4	9.4	Ko	3	..	13458b	61	1882	15.1	+56 14	9.3	10.3	Ko	1	..	38767i
12	1662	14.8	+57 32	8.4	9.2	G5	3	..	38767i	62	2707	15.1	+32 52	8.2	9.4	K5	1	..	38774i
13	2752	14.8	+38 31	7.9	8.0	A2	3	..	38504i	63	2990	15.1	+10 3	8.17	9.24	K2	4	..	19235b
14	3166	14.8	+3 8	8.5	8.9	F5	5	..	17083b	64	4470	15.1	-21 5	9.8	10.4	K5	1	..	40316b
15	3167	14.8	+2 55	8.7	9.0	F2	5	..	17083b	65	11485	15.1	-25 21	3.08	2.86	B1	..	R	28,211
16	3205	14.8	+1 43	9.0	10.2	K5	1	..	17083b	66	11292	15.1	-27 0	8.2	9.2	F5	4	3,4	40611b
17	4479	14.8	-12 34	9.5	9.6	A2	3	..	40589b	67	11651	15.1	-33 0	7.44	8.0	K2	5	..	14373b
18	4468	14.8	-20 43	9.8	10.4	K5	1	..	40316b	68	10770	15.1	-37 33	9.5	11.4	G5	3	..	21440b
19	4341	14.8	-21 36	7.11	8.5	K5	6	..	40316b	69	10592	15.1	-49 41	10.3	9.9	K5	2	..	21832b
20	13063	14.8	-30 7	9.53	9.8	Fo	3	..	40611b	70	10451	15.1	-50 18	8.1	7.9	F8	4	..	23045b
21	12803	14.8	-31 31	8.8	9.2	F5	4	..	39300b	71	7879	15.1	-53 27	8.5	8.8	Go	5	..	19344b
22	10418	14.8	-39 12	8.8	9.1	G5	5	..	14373b	72	3908	15.1	-63 50	8.4	9.4	Ko	4	..	19902b
23	10619	14.8	-41 46	7.58	7.7	A3p	4	1,9 R	43871b	73	3295	15.1	-65 29	8.8	8.8	B9	7	..	42473b
24	10802	14.8	-44 35	8.5	9.0	F8	8	..	23764b	74	3099	15.1	-67 54	9.1	9.1	Ao	6	..	42473b
25	10079	14.8	-51 37	10.6	9.6	Go	1	..	19344b	75	3206	15.2	+1 29	9.3	9.8	F8	4	..	17083b
26	7871	14.8	-53 19	10.3	10.6	Fo	2	..	19344b	76	3097	15.2	-0 44	9.0	9.4	F5	3	..	40289b
27	7865	14.8	-53 40	8.3	8.6	G5	6	..	19344b	77	4096	15.2	-4 43	9.3	10.3	Ko	2	..	41533b
28	7575	14.8	-54 55	9.5	9.5	Ao	3	..	19640b	78	4263	15.2	-7 52	10.0	10.4	F5	2	..	41229b
29	6715	14.8	-59 23	9.6	9.6	B9	4	..	19640b	79	4481	15.2	-12 28	9.3	9.4	A3	5	..	40589b
30	6714	14.8	-59 53	9.0	9.5	A2	4	..	19902b	80	11226	15.2	-42 38	11.6	11.0	Ao	1	..	23764b
31	1108	14.9	+65 4	8.8	9.6	G5	3	..	37746i	81	11227	15.2	-42 58	7.2	7.7	B8	10	..	23764b
32	3078	14.9	+2 34	9.1	9.9	G5	2	..	17083b	82	10756	15.2	-49 0	11.6	9.7	Ao	2	..	37577b
33	3920	14.9	-3 45	9.5	10.6	K2	1	..	41533b	83	7882	15.2	-53 22	9.7	10.9	K5	1	..	21832b
34	4114	14.9	-11 59	10.2	10.8	G	1	..	40589b	84	6774	15.2	-58 41	9.5	9.8	Fo	3	..	19640b
35	4480	14.9	-12 41	6.55	6.83	Fo	5	..	8382b	85	5660	15.2	-61 56	9.2	9.2	B9	4	..	21769b
36	4273	14.9	-16 51	8.4	9.5	K2	3	..	11483b	86	2001	15.2	-71 47	8.2	8.2	Ao	5	..	42473b
37	4156	14.9	-22 21	8.8	9.0	Fo	5	..	40316b	87	1664	15.3	+60 46	8.0	8.8	G5	4	..	37746i
38	12466	14.9	-29 43	9.6	9.5	G5	2	..	40611b	88	3144	15.3	+7 18	9.3	9.8	F8	4	..	19235b
39	10753	14.9	-48 45	9.1	7.9	B9	3	..	20092b	89	3205	15.3	+5 57	8.9	10.0	K2	3	..	19235b
40	7632	14.9	-56 53	9.2	10.0	K5	1	..	19640b	90	3083	15.3	+2 3	9.5	10.1	G	1	..	17083b
41	2545	14.9	-69 52	9.6	9.7	A3	3	..	42473b	91	3208	15.3	+1 9	8.7	9.7	Ko	3	..	17083b
42	586	15.0	+75 27	6.51	7.58	K2	5	0,2	37752i	92	4407	15.3	-6 45	10.0	11.2	K5	1	..	41229b
43	1664	15.0	+57 35	8.8	9.8	Ko	2	..	38767i	93	4297	15.3	-10 58	9.3	9.9	Go	2	..	40589b
44	2696	15.0	+42 52	8.3	8.6	F2	4	..	37730i	94	4548	15.3	-17 28	9.32	10.10	G5	2	..	11483b
45	4095	15.0	-4 19	8.6	9.7	K2	4	..	41533b	95	4362	15.3	-19 42	8.57	9.0	G5	2	..	11483b
46	4094	15.0	-4 32	9.2	10.4	K5	2	..	41533b	96	12852	15.3	-23 28	7.01	6.9	B9	9	..	40316b
47	4115	15.0	-11 18	10.4	11.2	G5	1	..	40589b	97	10954	15.3	-34 40	10.1	10.3	Ao	2	..	39300b
48	12468	15.0	-29 53	8.0	8.6	A5	5	..	40611b	98	10334	15.3	-40 25	10.1	10.9	A	1	..	23764b
49	11648	15.0	-33 4	7.30	8.0	F5	8	..	14373b	99	10757	15.3	-48 48	11.6	9.3	B5	4	..	37577b
50	10804	15.0	-44 43	9.1	9.6	F5	4	..	23764b	100	7639	15.3	-56 6	8.0	8.2	Ao	3	..	36341b

THE HENRY DRAPER CATALOGUE.

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16<sup>h</sup> 15<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	7953	15.3	-57 11	9.2	9.5	B9	4	..	1964ob	51	2622	15.7	+27 1	9.1	9.9	G5	1	..	3877oi
2	774	15.4	+71 5	8.2	9.2	K6	2	..	37752i	52	2995	15.7	+12 10	7.9	8.9	Ko	3	..	38782i
3	1117	15.4	+64 31	8.4	9.4	Ko	3	..	37746i	53	3177	15.7	+ 8 6	9.3	10.1	G5	2	..	19235b
4	3244	15.4	+20 3	7.65	8.65	Ko	3	..	38771i	54	4409	15.7	- 6 22	9.5	10.5	Ko	2	..	41229b
5	3084	15.4	+ 2 1	9.1	9.6	F8	3	..	17083b	55	11488	15.7	-25 42	9.4	9.2	F8	3	..	40316b
6	4097	15.4	- 4 23	9.0	10.1	K2	3	..	41533b	56	10605	15.7	-45 36	9.7	9.6	F5	3	..	21842b
7	4472	15.4	-21 2	10.4	10.4	Go	1	..	40316b	57	10682	15.7	-46 6	9.7	9.6	A2	2	..	21842b
8	12474	15.4	-29 8	10.5	9.8	Ao	4	..	40611b	58	10769	15.7	-48 24	8.3	8.5	Ko	1	..	20092b
9	12810	15.4	-31 57	8.4	9.5	Ko	3	..	3930ob	59	10606	15.7	-50 3	9.9	9.0	Ao	2	..	23045b
10	11654	15.4	-32 16	9.5	10.4	Ko	1	..	3930ob	60	10469	15.7	-50 56	10.3	9.3	F5	2	..	19344b
11	11125	15.4	-33 21	10.5	10.4	Ao	1	..	3930ob	61	10099	15.7	-51 16	9.3	9.0	G5	3	..	19344b
12	11228	15.4	-42 47	9.0	9.1	Ao	6	..	23764b	62	10094	15.7	-51 58	9.5	8.1	Ao	4	..	19344b
13	9714	15.4	-52 37	9.0	8.4	B9	5	..	19344b	63	3477	15.7	-64 48	8.5	9.3	G5	6	..	19902b
14	7596	15.4	-54 25	9.1	9.1	B8	3	..	19926b	64	1110	15.8	+65 7	9.1	9.6	F8	2	..	37746i
15	2698	15.5	+42 17	9.3	9.3	A	2	..	3773oi	65	2977	15.8	+39 1	8.7	8.8	A2	3	..	38504i
16	2755	15.5	+38 1	7.29	8.36	K2	4	..	38504i	66	2902	15.8	+21 23	6.14	6.92	G5	7	5.9	22296i
17	2824	15.5	+26 14	8.7	9.8	K2	1	..	38774i	67	4213	15.8	- 8 47	10.0	10.8	G5	2	..	41229b
18	3170	15.5	+ 3 7	9.0	10.1	K2	1	..	17083b	68	4485	15.8	-12 52	8.4	9.2	G5	7	..	40589b
19	3921	15.5	- 3 42	9.5	10.7	K5	2	..	41533b	69	11130	15.8	-34 3	9.5	9.5	A2	3	..	3930ob
20	4342	15.5	-21 52	8.6	8.8	Fo	6	..	40316b	70	10420	15.8	-39 59	8.78	9.5	K2	4	..	23764b
21	12475	15.5	-29 55	9.76	9.9	Ao	2	..	40611b	71	10626	15.8	-42 3	9.2	9.1	A2	5	..	23764b
22	11656	15.5	-32 58	9.5	9.5	Go	2	..	3930ob	72	10732	15.8	-43 13	11.0	10.8	A2	1	..	23764b
23	11229	15.5	-42 17	11.0	10.9	A3	2	..	23764b	73	10104	15.8	-52 1	9.1	7.8	Ao	6	..	19344b
24	10726	15.5	-43 21	10.1	10.6	Fo	2	..	23764b	74	9731	15.8	-52 49	8.0	7.9	B8	8	..	19344b
25	10724	15.5	-43 41	6.00	7.1	G5	..	5.3	56,138	75	2689	15.9	+41 53	7.86	8.00	A5	6	R	3773oi
26	10762	15.5	-48 39	11.6	9.4	B8	3	..	37577b	76		15.9	+41 53			G			
27	10599	15.5	-49 24	9.9	9.6	Ko	3	..	21832b	77	3171	15.9	+ 2 58	9.1	9.4	F2	3	..	17083b
28	10601	15.5	-49 27	11.6	9.9	A2	2	..	21832b	78	3924	15.9	- 3 38	9.5	10.7	K5	2	..	41533b
29	6775	15.5	-58 5	10.3	10.3	Ao	1	..	1964ob	79	4098	15.9	- 4 38	9.2	10.2	Ko	2	..	41533b
30	3476	15.5	-64 49	9.3	9.3	Ao	4	..	19902b	80	4300	15.9	-10 39	9.5	10.1	G	2	..	41229b
31	775	15.6	+71 11	7.77	8.55	G5	4	..	37752i	81	4487	15.9	-12 8	9.2	10.0	G5	3	..	40589b
32	1665	15.6	+60 0	5.64	6.99	Mb	8	5.9	38767i	82	4486	15.9	-12 42	9.3	10.3	Ko	2	..	40589b
33	2590	15.6	+43 12	9.0	9.4	F5	3	..	3773oi	83	12672	15.9	-24 15	10.1	10.6	A2	1	..	40316b
34	3146	15.6	+ 7 39	9.8	9.8	Ao	3	..	19235b	84	12671	15.9	-24 46	9.1	9.2	Go	5	..	40316b
35	4117	15.6	-11 47	10.2	10.8	Go	3	..	40589b	85	10961	15.9	-34 6	9.1	11.4	K5	1	..	3930ob
36	10977	15.6	-38 29	10.3	11.1	G5	2	..	2144ob	86	11232	15.9	-42 47	9.2	9.4	Fo	6	..	23764b
37	10625	15.6	-41 45	11.5	10.9	A	1	..	23764b	87	9733	15.9	-52 32	9.1	9.1	A3	3	..	19344b
38	10681	15.6	-46 56	9.3	9.0	F5	5	..	2008ob	88	5322	15.9	-62 58	9.1	10.1	Ko	1	..	19902b
39	7897	15.6	-53 28	10.5	10.6	A5	1	..	19344b	89	2949	15.9	-66 28	9.0	9.0	Ao	6	..	42473b
40	7646	15.6	-56 55	9.0	10.0	Ko	1	..	1964ob	90	542	16.0	+80 57	8.8	9.1	Fo	2	..	3724oi
41	7645	15.6	-57 3	9.0	9.5	Ko	2	..	1964ob	91	1581	16.0	+61 36	7.9	8.2	F2	6	..	37746i
42	6777	15.6	-58 22	7.20	7.7	A2	5	..	36341b	92	3189	16.0	+ 9 4	9.1	9.6	F8	2	..	19235b
43	6718	15.6	-59 20	9.0	9.0	B8	6	0.4	1964ob	93	3503	16.0	+ 0 51	8.09	9.16	K2	5	..	17083b
44	5661	15.6	-61 55	9.5	9.6	A2	3	..	21769b	94	3170	16.0	- 1 39	8.9	9.5	Go	3	2.3	41533b
45	2947	15.6	-66 14	9.1	10.1	Ko	2	..	42473b	95	4412	16.0	-13 32	9.3	9.3	Ao	6	..	40589b
46	2948	15.6	-66 48	9.1	9.6	F8	3	..	42473b	96	4343	16.0	-21 15	10.0	10.2	Fo	2	..	40316b
47	2003	15.6	-71 32	7.9	8.9	Ko	5	..	42473b	97	13078	16.0	-31 1	8.4	9.2	G5	4	..	3930ob
48	1261	15.7	+63 16	9.1	9.9	G5	3	..	37746i	98	11665	16.0	-32 6	9.5	10.1	Ko	1	..	3930ob
49	2764	15.7	+34 30	8.7	9.5	G5	2	..	38504i	99	11666	16.0	-32 54	8.5	9.8	K5	2	..	3930ob
50	2792	15.7	+30 28	8.7	9.7	Ko	1	..	38774i	100	11233	16.0	-42 47	9.2	9.7	G5	2	..	23764b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

147300

16<sup>h</sup> 16<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10614	16.0	-49 49	10.3	9.4	B9	4	..	21832b	51	809	16.3	-80 43	8.9	9.4	F8	4	..	43458b
2	7498	16.0	-55 13	7.99	7.4	B5	..	2,3	56,138	52	2491	16.4	+49 17	6.19	7.19	Ko	8	0,8-	37730i
3	7966	16.0	-57 53	10.3	10.3	Ao	1	..	19640b	53	3184	16.4	+ 5 19	9.5	10.5	Ko	1	..	19235b
4	6720	16.0	-59 31	9.5	9.5	B8	3	..	19640b	54	4491	16.4	-12 31	9.5	10.5	Ko	1	..	40589b
5	3105	16.0	-67 21	9.0	9.6	Go	4	..	42473b	55	4490	16.4	-12 42	9.5	10.6	K2	1	..	40589b
6	1469	16.1	+62 45	9.5	10.5	K	1	..	37746i	56	4158	16.4	-22 25	9.5	9.6	Ao	3	..	40316b
7	1884	16.1	+56 22	9.1	10.2	K2	1	..	38767i	57	12830	16.4	-31 18	11.3	10.7	Ma	1	..	39300b
8	2623	16.1	+27 34	7.46	7.60	A5	4	..	38770i	58	10621	16.4	-49 10	11.6	9.9	F2	3	..	21832b
9	3178	16.1	+ 8 50	8.9	9.3	F5	5	..	19235b	59	10114	16.4	-51 46	10.3	9.0	B8	3	..	19344b
10	3160	16.1	+ 4 34	9.5	9.8	Fo	2	..	19235b	60	7913	16.4	-53 12	9.8	10.9	K2	3	..	21832b
11	4302	16.1	-10 13	9.31	10.31	Ko	2	..	41229b	61	7915	16.4	-53 18	10.2	10.6	F5	2	..	21832b
12	11668	16.1	-32 6	9.1	9.8	Ko	1	..	39300b	62	7632	16.4	-54 30	8.5	7.9	B3	..	0,4-	56,138
13	11669	16.1	-32 16	10.1	9.9	Ao	1	..	39300b	63	6724	16.4	-59 18	9.0	10.7	K2	1	..	19640b
14	11134	16.1	-33 26	8.5	8.6	F5	4	..	14373b	64	1861	16.5	+53 46	9.1	9.5	F5	3	..	38767i
15	10688	16.1	-46 11	10.6	9.6	Ao	1	..	21842b	65	3005	16.5	+39 57	5.54	5.88	F2	9	..	38504i
16	10616	16.1	-49 29	10.3	9.3	B9	2	..	23045b	66	2793	16.5	+30 45	8.1	8.9	G5	1	..	38774i
17	10617	16.1	-49 48	10.3	9.9	Ao	3	..	21832b	67	2828	16.5	+26 19	8.5	9.1	G	1	..	38770i
18	10109	16.1	-51 55	10.1	9.3	Bo	2	..	19344b	68	2827	16.5	+26 8	7.9	8.2	F2	4	..	38770i
19	5323	16.1	-62 14	9.5	9.6	A2	4	..	21769b	69	3149	16.5	+ 6 54	8.3	8.7	F5	7	..	19235b
20	1946	16.1	-72 52	7.3	7.3	Ao	5	..	42473b	70	3505	16.5	+ 0 19	7.03	8.03	Ko	6	..	40289b
21	713	16.2	+73 38	5.98	5.98	Ao	9	..	37752i	71	10771	16.5	-37 12	6.96	7.4	Ko	8	..	14373b
22	3179	16.2	+ 8 45	9.1	10.1	Ko	1	..	19235b	72	10338	16.5	-40 11	10.1	10.0	G5	4	..	23764b
23	3183	16.2	+ 5 15	8.7	9.0	Fo	5	..	19235b	73	10740	16.5	-43 53	10.6	10.4	Ko	1	..	23764b
24	4488	16.2	-12 20	9.8	10.8	Ko	2	..	40589b	74	10484	16.5	-50 13	9.5	9.9	K5	1	..	23045b
25	13082	16.2	-30 57	8.0	8.4	A2	6	..	39300b	75	7660	16.5	-56 46	7.5	8.6	K5	5	..	19640b
26	10912	16.2	-35 56	9.2	10.0	A2	3	..	14373b	76	6726	16.5	-59 15	9.0	9.8	Ko	3	..	19640b
27	10748	16.2	-36 54	10.1	11.2	G5	2	..	21440b	77	6514	16.5	-61 1	8.8	9.0	B9	5	..	19902b
28	10336	16.2	-40 23	8.1	10.5	Ko	3	..	23764b	78	3479	16.5	-64 25	8.7	8.8	A2	7	..	19902b
29	10629	16.2	-41 59	9.5	10.6	Ko	1	..	23764b	79	935	16.6	+67 28	8.9	10.1	K5	2	R	37746i
30	10476	16.2	-50 24	10.3	9.4	Ao	1	..	23045b	80	3209	16.6	+ 6 5	9.1	9.2	A2	4	..	19235b
31	9741	16.2	-52 4	8.4	8.7	Bo	4	R	19344b	81	4412	16.6	- 6 54	9.3	10.3	Ko	3	..	41229b
32	9742	16.2	-52 49	9.7	9.7	Ao	2	..	19344b	82	4365	16.6	-10 3	9.36	9.92	Go	3	..	41229b
33	7906	16.2	-53 35	10.6	10.6	B9	1	..	19344b	83	4347	16.6	-21 32	10.7	11.1	G5	1	..	40316b
34	7621	16.2	-54 48	10.5	10.5	B9	2	..	19640b	84	12675	16.6	-24 9	9.0	8.6	Ao	6	..	40316b
35	7502	16.2	-55 50	8.0	7.8	F8	2	..	36341b	85	13090	16.6	-30 32	8.4	9.0	Go	4	..	39300b
36	6513	16.2	-60 17	8.7	9.0	B9	5	..	19902b	86	13092	16.6	-30 51	9.1	10.8	F5	2	..	39300b
37	6512	16.2	-61 1	9.7	9.8	A2	2	..	19902b	87	10966	16.6	-34 42	7.28	6.7	F2	9	..	14373b
38	5666	16.2	-61 59	8.0	9.5	K2	5	..	21769b	88	10914	16.6	-35 12	9.28	10.6	K2	2	..	39300b
39	1666	16.3	+57 51	9.3	9.9	Go	2	..	38767i	89	11240	16.6	-42 36	11.0	10.6	A2	2	..	23764b
40	4362	16.3	- 9 53	9.2	10.0	G5	3	..	41229b	90	5669	16.6	-61 7	9.0	9.8	Ko	1	..	19902b
41	4364	16.3	- 9 57	8.31	9.09	G5	5	..	41229b	91	5327	16.6	-62 1	79.8	9.8	Ao	3	..	21769b
42	4345	16.3	-21 25	8.6	8.4	A2	7	..	40316b	92	3480	16.6	-64 16	9.6	9.6	Ao	2	..	19902b
43	12674	16.3	-24 7	9.6	9.5	Ao	4	..	40316b	93	2712	16.6	-68 16	8.7	9.7	Ko	3	..	42473b
44	10739	16.3	-43 56	8.5	10.2	K5	2	..	23764b	94	2169	16.7	+46 33	3.91	3.79	B5	..	0,R	1876c
45	10690	16.3	-46 30	9.3	9.0	A3	7	..	20080b	95	2741	16.7	+37 11	6.75	8.10	Ma	5	..	38504i
46	7908	16.3	-54 2	9.4	9.4	B9	2	..	19926b	96	3191	16.7	+ 9 35	9.1	9.4	Fo	3	..	19235b
47	7624	16.3	-54 59	7.86	7.4	B8	3	..	36341b	97	3506	16.7	+ 0 48	8.19	9.26	K2	4	..	17083b
48	7656	16.3	-56 59	9.2	9.2	B9	3	..	19640b	98	4414	16.7	-13 14	9.5	9.6	A5	4	..	40589b
49	5325	16.3	-62 54	6.28	5.9	A2	..	..	28,211	99	12492	16.7	-29 52	8.6	9.9	G5	2	..	40611b
50	1947	16.3	-72 48	7.9	8.7	G5	4	..	42473b	100	11140	16.7	-33 47	9.1	9.8	A5	2	..	39300b



## THE HENRY DRAPER CATALOGUE.

147400

16<sup>h</sup> 16<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10968	m. 16.7	° 34 19	8.6	9.2	F5	5	..	14373b	51	4367	m. 17.0	° 9 15	8.8	9.4	Go	5	..	40607b
2	10425	16.7	-39 44	10.5	10.9	Go	2	..	21440b	52	4493	17.0	-12 12	8.8	9.4	Go	5	..	40589b
3	10742	16.7	-43 44	10.3	10.2	B9	3	..	23764b	53	11144	17.0	-33 16	9.5	10.4	Ko	1	..	39300b
4	10493	16.7	-50 48	9.3	9.7	K5	1	..	19344b	54	10969	17.0	-34 26	9.2	9.4	F5	4	..	14373b
5	9759	16.7	-52 28	9.6	9.6	B8	3	..	19344b	55	10970	17.0	-34 42	10.5	10.6	Go	2	..	39300b
6	7978	16.7	-57 56	9.6	9.7	A2	2	..	19640b	56	10344	17.0	-40 24	10.3	10.6	G5	2	..	23764b
7	1470	16.8	+62 38	7.49	8.49	Ko	6	..	37746i	57	10795	17.0	-48 9	9.1	9.0	Ko	4	..	20080b
8	3163	16.8	+18 4	8.5	9.5	Ko	2	..	3877ri	58	9770	17.0	-52 22	9.4	9.4	B8	3	..	19344b
9	3151	16.8	+7 13	9.1	10.1	Ko	1	..	19235b	59	9771	17.0	-52 52	10.2	10.2	Ao	2	..	21832b
10	3210	16.8	+6 2	8.0	9.0	Ko	7	..	19235b	60	7648	17.0	-54 48	9.2	9.7	F8	3	..	19640b
11	3212	16.8	+1 26	8.1	9.1	Ko	7	..	17083b	61	7650	17.0	-55 4	10.0	10.0	B9	3	..	19640b
12	3926	16.8	-3 15	9.3	9.7	F5	2	..	40289b	62	6729	17.0	-59 12	9.2	9.9	Go	3	..	19640b
13	4122	16.8	-11 43	9.8	10.3	F8	2	..	40589b	63	5331	17.0	-62 12	8.5	9.5	Ko	6	..	21769b
14	12676	16.8	-24 23	10.1	9.8	Go	3	..	40316b	64	5330	17.0	-62 32	9.7	9.8	A2	2	..	19902b
15	11679	16.8	-32 35	9.5	10.1	Go	1	..	39300b	65	2553	17.0	-69 6	6.65	6.7	B9	6	..	43874b
16	10773	16.8	-37 50	9.7	10.9	Go	3	..	21440b	66	1830	17.1	+55 2	8.11	9.29	K5	4	..	38767i
17	10341	16.8	-40 50	7.3	8.5	Ko	7	..	23764b	67	2551	17.1	+28 44	9.5	10.5	Ko	1	..	38774i
18	10494	16.8	-50 24	9.7	9.0	A2	2	..	23045b	68	3124	17.1	+13 7	8.1	9.1	Ko	2	..	38782i
19	10119	16.8	-51 18	11.6	10.5	Ob	..	..	76,29	69	3216	17.1	+1 49	9.3	9.4	A5	3	..	17083b
20	9760	16.8	-52 48	9.4	10.6	K5	1	..	21832b	70	3508	17.1	+0 44	7.64	7.64	Ao	9	..	17083b
21	7928	16.8	-53 14	9.0	8.5	B2	4	..	19344b	71	4416	17.1	-6 38	9.3	9.6	Fo	4	..	41229b
22	7662	16.8	-56 6	8.0	8.6	Ko	6	..	19640b	72	4305	17.1	-11 6	8.1	8.6	F8	8	..	40589b
23	7663	16.8	-56 27	10.2	10.3	A2	1	..	19640b	73	4280	17.1	-16 47	6.67	6.95	Fo	8	0,8	11483b
24	7981	16.8	-57 13	10.2	10.2	Ao	1	..	19640b	74	4279	17.1	-16 55	8.8	9.8	Ko	3	2,2	40615b
25	6783	16.8	-59 4	9.1	10.7	K5	1	..	19640b	75	10500	17.1	-50 53	9.7	9.9	K2	1	..	19344b
26	1262	16.9	+63 11	8.8	9.2	F5	3	..	37746i	76	10126	17.1	-51 59	11.0	9.9	B9	1	..	19344b
27	1666	16.9	+59 55	8.61	8.89	Fo	3	..	37746i	77	9772	17.1	-52 20	9.3	9.4	A3	4	..	19344b
28	3006	16.9	+40 29	7.90	8.24	F2	5	..	37730i	78	7528	17.1	-55 51	10.6	10.6	B9	1	..	19640b
29	2768	16.9	+34 52	9.12	10.47	Mb	..	..	M	79	7668	17.1	-56 17	7.3	8.8	K2	5	..	19640b
30	2958	16.9	+22 30	7.03	8.10	K2	6	..	3877ri	80	7669	17.1	-56 46	10.5	10.5	Ao	1	..	19640b
31	4216	16.9	-8 31	7.14	7.20	A2	9	..	40607b	81	3914	17.1	-63 39	8.5	9.7	K5	2	..	19902b
32	4159	16.9	-22 53	7.45	8.0	A2	8	..	40316b	82	1546	17.1	-74 59	7.28	9.0	K2	6	..	11726b
33	10918	16.9	-27 40	8.1	9.3	Ko	4	2,3	40325b	83	1716	17.2	+59 31	9.3	10.5	K5	1	..	38767i
34	10343	16.9	-40 33	9.5	10.0	Ao	4	..	23764b	84	2076	17.2	+51 51	8.7	9.1	F5	2	..	38766i
35	10342	16.9	-41 1	7.5	7.6	Fo	9	..	23764b	85	2814	17.2	+29 45	8.91	9.47	Go	2	..	38774i
36	10712	16.9	-47 22	10.1	9.6	Ko	4	..	20080b	86	2813	17.2	+29 9	8.9	9.4	F8	2	..	38774i
37	10123	16.9	-51 32	10.6	9.3	F8	4	..	19344b	87	2629	17.2	+27 36	8.7	9.3	Go	2	..	38770i
38	7930	16.9	-53 21	8.0	8.2	Go	7	R	19344b	88	2969	17.2	+11 5	8.7	9.3	Go	1	..	38782i
39	7522	16.9	-55 52	10.0	10.0	Ao	1	..	19640b	89	4494	17.2	-12 58	8.8	10.0	K5	2	..	40589b
40	2393	17.0	+45 26	8.8	9.1	F2	3	..	37730i	90	4482	17.2	-21 3	9.2	10.2	K5	2	..	40316b
41	2924	17.0	+23 13	7.8	8.3	F8	4	..	3877ri	91	11310	17.2	-26 9	10.1	9.5	Go	2	..	40316b
42	3250	17.0	+20 19	8.5	9.3	G5	2	..	3877ri	92	12081	17.2	-28 49	9.8	10.3	F8	2	..	40325b
43	3152	17.0	+7 25	9.8	10.6	G5	1	..	19235b	93	10753	17.2	-36 13	8.5	8.5	Fo	6	..	14373b
44	3153	17.0	+7 21	9.1	9.6	F8	3	..	19235b	94	10632	17.2	-42 2	10.8	10.5	A5	2	..	23764b
45	3212	17.0	+6 46	9.8	10.9	K2	2	..	19235b	95	10832	17.2	-44 14	10.1	10.2	Go	2	..	23764b
46	3211	17.0	+5 55	9.1	10.1	Ko	2	..	19235b	96	10717	17.2	-48 0	9.0	9.0	Ko	5	..	20080b
47	3186	17.0	+5 41	9.5	10.1	Go	3	..	19235b	97	10501	17.2	-50 7	9.7	9.3	Fo	4	..	21832b
48	3215	17.0	+1 16	4.80	5.08	Fo	..	R	56,93	98	10130	17.2	-51 5	10.6	9.9	A2	1	..	19344b
49	4282	17.0	-5 27	8.6	9.6	Ko	3	2,1	41229b	99	9778	17.2	-52 20	9.2	9.1	B8	4	..	19344b
50										100	2555	17.2	-69 38	7.36	7.5	B9	4	..	43874b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

147500

16<sup>h</sup> 17<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	1668	17.3	+57 50	8.7	8.8	A3	4	..	38767i	51	4418	17.5	- 6 22	9.5	10.6	K2	1	..	41229b
2	1807	17.3	+54 1	9.3	10.5	K5	1	..	38767i	52	11314	17.5	-26 17	Cl.	Cl.	Con.	3	R	40316b
3	2275	17.3	+50 28	9.3	9.8	F8	1	..	38766i	53	11687	17.5	-32 58	6.54	7.0	A0	10	..	39300b
4	2172	17.3	+46 37	9.2	9.5	F0	2	..	37730i	54	11251	17.5	-42 33	11.0	10.6	A2	2	..	23764b
5	2563	17.3	+44 18	9.1	9.7	G0	2	..	37730i	55	10754	17.5	-43 25	10.6	10.8	K5	2	..	23764b
6	2693	17.3	+41 16	8.4	8.9	F8	3	..	37730i	56	10834	17.5	-44 57	7.82	7.8	A0	2	..	3930b
7	2907	17.3	+21 53	8.3	8.4	A3	5	..	38771i	57	10724	17.5	-47 12	10.1	9.6	A5	3	..	21842b
8	3126	17.3	+13 41	7.30	8.37	K2	3	..	38727i	58	10805	17.5	-48 22	8.3	7.8	F0	4	..	20092b
9	3175	17.3	+ 3 43	9.1	9.2	A3	2	..	17083b	59	10504	17.5	-50 31	7.6	7.8	B9	5	..	23045b
10	3173	17.3	+ 3 7	7.36	8.43	K2	6	..	17083b	60	10505	17.5	-50 42	8.1	9.6	K0	3	..	23045b
11	3089	17.3	+ 2 43	9.5	10.6	K2	3	..	17083b	61	10139	17.5	-51 56	11.0	9.6	A0	2	..	19344b
12	3929	17.3	- 4 1	8.2	8.8	G0	6	..	40289b	62	9788	17.5	-52 7	8.5	9.4	K0	4	..	19344b
13	10983	17.3	-38 58	5.40	6.5	G0	..	..	56,138	63	9790	17.5	-52 52	9.7	9.7	A0	2	..	19344b
14	11248	17.3	-42 57	10.3	9.5	A2	6	..	23764b	64	9792	17.5	-52 58	10.5	10.5	A0	2	..	21832b
15	10750	17.3	-43 30	8.3	8.7	A2	8	..	23764b	65	7674	17.5	-56 12	9.4	10.2	G5	1	..	19640b
16	10749	17.3	-43 50	10.6	10.2	A0	5	..	23764b	66	6732	17.5	-59 30	9.8	9.8	A0	3	..	19640b
17	10621	17.3	-45 24	10.3	9.6	A0	3	..	21842b	67	3917	17.5	-63 27	9.0	9.0	A0	4	..	19902b
18	10135	17.3	-51 12	9.7	9.6	G5	4	..	19344b	68	3918	17.5	-63 28	9.3	9.3	A	2	..	19902b
19	10133	17.3	-51 58	11.0	9.6	B9	2	..	19344b	69	3302	17.5	-65 34	8.8	8.8	B9	6	..	42473b
20	9783	17.3	-52 44	9.3	9.3	B8	3	..	19344b	70	1112	17.6	+65 1	9.30	9.72	F5	3	..	37746i
21	7945	17.3	-53 6	9.6	9.7	A2	4	..	21832b	71	1667	17.6	+60 33	9.1	9.6	F8	3	..	37746i
22	7941	17.3	-53 37	9.2	10.0	K2	2	2,I	19344b	72	2493	17.6	+49 17	8.2	8.8	G0	5	E	37609i
23	7658	17.3	-54 52	9.2	9.1	A0	2	..	19926b	73	2992	17.6	+10 8	8.42	9.60	K5	2	..	19235b
24	7987	17.3	-57 19	9.8	10.9	K2	1	..	19640b	74	3102	17.6	- 0 15	8.98	9.98	K0	1	..	40289b
25	6787	17.3	-58 20	9.0	11.0	Ma	..	..	M	75	4419	17.6	- 6 59	7.70	9.05	Mb	5	..	40607b
26	5675	17.3	-61 22	9.2	9.2	A0	3	..	19902b	76	4275	17.6	- 7 30	9.3	10.4	K2	1	..	40607b
27	2816	17.4	+29 13	8.7	9.3	G0	2	..	38774i	77	4220	17.6	- 8 14	10.0	11.2	K5	1	..	40607b
28	3003	17.4	+12 28	8.3	8.9	G0	4	..	38782i	78	12087	17.6	-28 54	9.6	10.8	K5	1	..	40325b
29	2972	17.4	+11 33	8.7	9.2	F8	2	..	38782i	79	12503	17.6	-29 57	7.86	9.5	K2	3	..	40611b
30	3184	17.4	+ 7 58	9.1	9.7	G0	3	..	19235b	80	10642	17.6	-49 31	9.2	9.0	B9	3	..	23045b
31	3174	17.4	+ 3 19	7.32	7.74	F5	8	..	17083b	81	10507	17.6	-50 6	11.6	10.5	A2	2	..	21832b
32	3930	17.4	- 3 59	9.3	9.3	A0	5	..	40289b	82	10141	17.6	-51 49	11.0	9.9	F8	3	..	21832b
33	4274	17.4	- 7 9	9.3	9.8	F8	3	..	40607b	83	7676	17.6	-56 44	10.2	10.2	A0	2	..	19640b
34	4274	17.4	-18 32	9.3	10.1	G5	2	..	40615b	84	2558	17.6	-69 52	4.93	5.49	G0	..	R	28,211
35	10984	17.4	-38 28	10.1	10.6	G0	4	..	21440b	85	1583	17.7	+61 40	9.3	10.1	G5	2	..	37746i
36	11249	17.4	-42 38	11.0	11.1	G0	1	..	23764b	86	2696	17.7	+41 13	8.4	9.4	K0	2	..	37730i
37	10622	17.4	-45 38	7.9	8.7	K5	2	..	20092b	87	2728	17.7	+36 8	8.5	9.0	F8	2	..	38504i
38	9787	17.4	-53 1	9.4	10.6	K5	1	..	21832b	88	2961	17.7	+22 46	8.3	8.9	G	2	..	38771i
39	7947	17.4	-53 9	9.7	9.7	B9	4	..	21832b	89	3194	17.7	+ 9 13	8.5	8.9	F5	6	..	19235b
40	6730	17.4	-59 12	10.6	10.7	A2	2	..	19640b	90	4417	17.7	-13 45	9.3	10.1	G5	3	..	40589b
41	3916	17.4	-63 14	9.5	9.6	A3	2	..	19902b	91	4411	17.7	-14 29	9.3	9.9	G0	4	..	40589b
42	3111	17.4	-67 40	8.9	10.0	K2	3	..	42473b	92	11495	17.7	-26 2	8.8	9.0	A0	4	..	40316b
43	899	17.4	-79 10	8.3	9.4	K2	2	..	43458b	93	10923	17.7	-27 8	10.8	9.5	A0	3	..	40325b
44	2394	17.5	+45 47	7.58	8.58	K0	6	..	37730i	94	12504	17.7	-29 33	9.4	9.8	G0	2	..	40611b
45	2564	17.5	+44 29	9.0	9.3	F0	4	..	37730i	95	12848	17.7	-31 38	9.6	9.9	G0	1	..	39300b
46	2959	17.5	+22 2	7.10	8.17	K2	6	..	38771i	96	12849	17.7	-32 2	8.0	8.6	F2	5	..	39300b
47	3086	17.5	+19 23	3.79	4.07	F0	..	R	2805c	97	10920	17.7	-35 27	8.9	9.2	F0	4	..	14373b
48	3193	17.5	+ 9 10	8.4	9.2	G5	5	..	19235b	98	10635	17.7	-42 0	10.1	9.5	G5	3	..	23764b
49	3165	17.5	+ 4 17	8.7	9.0	F0	3	..	19235b	99	10835	17.7	-44 33	10.1	10.2	A0	3	..	23764b
50	3174	17.5	- 1 51	6.11	6.09	B9	7	1,10	41735b	100	10719	17.7	-46 57	10.6	9.6	A2	2	..	21842b

## THE HENRY DRAPER CATALOGUE.

147600

16<sup>h</sup> 17<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10508	17.7	-50 31	8.1	8.1	B9	4	..	23045b	51	13110	18.0	-30 57	10.1	10.1	Ko	1	..	39300b
2	10144	17.7	-51 18	9.2	10.8	K2	2	..	21832b	52	10979	18.0	-34 57	7.54	7.7	F5	8	..	14373b
3	10147	17.7	-51 42	var.	var.	Nb	..	R	M	53	10359	18.0	-40 22	9.1	9.4	B9	3	..	23764b
4	10145	17.7	-52 1	10.6	9.3	Ao	3	..	19344b	54	10360	18.0	-40 32	9.5	10.9	Ko	1	..	23764b
5	7668	17.7	-54 27	9.9	11.3	Mb	..	..	M	55	10840	18.0	-44 24	10.6	10.2	A3	2	..	23764b
6	7671	17.7	-55 0	8.92	8.8	K2	2	..	19926b	56	10724	18.0	-46 10	10.6	9.3	B8	3	..	21842b
7	1264	17.8	+63 26	9.5	10.3	G5	2	..	37746i	57	10733	18.0	-47 18	7.9	8.1	F5	5	..	20092b
8	1960	17.8	+52 16	6.67	6.73	A2	8	0,10-	37316i	58	10514	18.0	-50 10	9.7	9.6	Ao	2	..	23045b
9	2631	17.8	+27 38	9.1	9.9	G5	2	..	38774i	59	10153	18.0	-51 32	9.7	10.8	B9	7	..	21832b
10	4102	17.8	-4 17	10.0	10.4	F5	2	..	40289b	60	2955	18.0	-66 21	9.6	9.7	A3	2	..	39343b
11	12092	17.8	-28 57	10.1	11.5	K5	1	..	40325b	61	452	18.0	-85 20	8.1	9.1	Ko	5	..	13458b
12	11152	17.8	-33 48	9.1	9.8	A2	2	..	39300b	62	868	18.1	+68 48	6.47	7.47	Ko	6	2,7	37752i
13	10978	17.8	-34 58	10.8	10.3	A5	2	..	39300b	63	2333	18.1	+46 56	8.8	9.4	G	2	..	37730i
14	10633	17.8	-45 7	6.46	7.0	A2	4	..	3930b	64	2697	18.1	+41 40	7.87	8.87	Ko	3	..	37730i
15	10728	17.8	-47 13	9.2	8.7	A2	2	..	20092b	65	3071	18.1	+24 59	8.66	9.44	G5	2	..	38770i
16	10645	17.8	-49 58	11.6	10.5	Go	2	..	21832b	66	13113	18.1	-30 49	10.1	9.8	A2	2	..	39300b
17	10148	17.8	-51 48	11.0	9.6	B	3	..	21832b	67	11690	18.1	-32 54	10.5	10.3	A2	1	..	39300b
18	5333	17.8	-63 4	8.7	9.0	F2	4	..	19902b	68	10780	18.1	-37 58	9.5	10.0	Go	3	..	19343b
19	2954	17.8	-66 7	8.4	9.0	Go	6	..	42473b	69	10639	18.1	-41 21	8.8	9.2	F8	4	..	23764b
20	543	17.9	+81 24	8.4	9.2	G5	2	..	37240i	70	7688	18.1	-56 40	7.1	7.9	B8	4	..	36341b
21	1961	17.9	+52 4	8.2	9.2	Ko	3	..	38766i	71	8003	18.1	-57 38	10.2	10.2	Ao	2	..	19640b
22	2276	17.9	+50 2	9.02	9.80	G5	2	..	38766i	72	6735	18.1	-59 33	8.7	8.3	B9	7	..	19640b
23	3179	17.9	+2 58	9.5	10.0	F8	2	..	17083b	73	6525	18.1	-60 25	9.2	9.0	Ao	5	..	19902b
24	4222	17.9	-8 45	8.2	9.0	G5	6	..	40607b	74	2956	18.1	-66 9	9.1	9.6	F8	3	..	42473b
25	12508	17.9	-29 56	8.54	8.7	F2	5	..	40611b	75	1103	18.1	-78 40	3.90	4.90	Ko	..	0,R	28,211
26	13108	17.9	-30 29	9.6	10.7	K5	1	..	39300b	76	937	18.2	+67 30	9.3	10.1	G5	2	..	37746i
27	12851	17.9	-31 55	9.1	9.5	F2	2	..	39300b	77	2845	18.2	+31 7	4.72	5.72	Ko	..	0,R	56,93
28	10778	17.9	-37 20	5.43	5.38	B8	..	..	56,138	78	3170	18.2	+4 32	8.7	9.7	Ko	1	..	19235b
29	10638	17.9	-41 59	9.5	10.0	K2	2	..	23764b	79	3169	18.2	+4 19	8.6	8.9	F2	4	..	19235b
30	10764	17.9	-43 11	10.1	10.5	K5	1	..	23764b	80	4420	18.2	-6 53	9.3	10.1	G5	3	..	40607b
31	10759	17.9	-44 2	10.1	10.1	Ao	4	..	23764b	81	12858	18.2	-23 17	9.0	8.8	Go	5	..	40316b
32	10810	17.9	-48 26	9.5	9.0	A2	2	..	20092b	82	13116	18.2	-30 15	9.6	9.9	Go	3	..	40325b
33	10809	17.9	-48 55	7.2	7.5	G5	6	..	20092b	83	10981	18.2	-34 40	7.08	7.2	B8	9	..	39300b
34	10647	17.9	-49 5	10.6	9.9	Ao	3	..	21832b	84	10925	18.2	-35 51	9.4	9.7	G5	2	..	14373b
35	10646	17.9	-49 44	10.6	10.2	Ko	3	..	21832b	85	10987	18.2	-38 14	7.9	8.5	F5	7	3,7	19343b
36	10513	17.9	-50 28	9.2	9.6	G5	1	..	23045b	86	10367	18.2	-40 25	8.9	9.1	B8	4	..	23764b
37	7536	17.9	-55 23	9.2	9.2	Ao	4	..	19640b	87	10767	18.2	-43 5	8.1	8.4	Ao	9	..	23764b
38	1584	18.0	+61 1	9.1	10.1	Ko	2	..	37746i	88	10843	18.2	-44 8	11.0	9.9	Ao	3	..	23764b
39	2566	18.0	+44 3	7.82	8.10	Fo	6	..	37730i	89	7965	18.2	-53 56	8.5	10.0	K5	2	..	19926b
40	3215	18.0	+6 21	9.8	10.9	K2	2	..	19235b	90	7540	18.2	-55 36	8.3	7.9	B8	4	..	36341b
41	3168	18.0	+4 49	8.96	9.96	Ko	2	..	19235b	91	6737	18.2	-59 33	9.0	9.0	B9	4	..	19640b
42	3511	18.0	-0 2	8.23	8.79	Go	4	..	40289b	92	3304	18.2	-65 31	9.0	9.0	Ao	5	..	42473b
43	3107	18.0	-0 21	8.1	9.1	Ko	3	..	40289b	93	3305	18.2	-66 0	9.1	9.9	G5	2	..	42473b
44	3106	18.0	-0 29	7.9	8.5	Go	4	..	40289b	94	2233	18.2	-70 54	7.10	8.2	F5	7	..	42473b
45	3105	18.0	-0 38	7.28	7.42	A5	7	..	40289b	95	1729	18.2	-73 51	8.5	9.5	Ko	1	..	11726b
46	4103	18.0	-4 33	9.0	9.1	A2	4	..	40289b	96	1162	18.2	-76 8	8.5	9.6	K2	2	..	11726b
47	4161	18.0	-22 9	9.5	10.5	Mb	3	..	40087b	97	2963	18.3	+21 59	8.5	9.6	K2	2	..	38771i
48	11498	18.0	-25 11	9.6	9.5	A2	3	..	40316b	98	3196	18.3	+9 17	10.1	10.1	Ao	3	..	19235b
49	11497	18.0	-25 54	10.5	9.6	A2	2	R	40316b	99	3177	18.3	-1 48	9.1	10.1	Ko	1	..	40289b
50	13112	18.0	-30 49	9.8	9.9	Fo	1	..	39300b	100	4365	18.3	-19 49	4.59	5.59	Ko	..	R	56,93

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

147700

16<sup>h</sup> 18<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	12682	18.3	-24 48	8.8	9.2	B8	6	..	40316b	51	2995	18.6	+10 14	8.6	9.1	F8	4	..	19235b
2	11499	18.3	-25 28	9.3	9.2	Ao	4	..	40316b	52	4176	18.6	-2 45	9.2	10.0	G5	1	..	40289b
3	11327	18.3	-26 55	7.34	7.6	Ao	8	..	40325b	53	4309	18.6	-10 48	8.0	8.3	F2	7	..	40607b
4	10781	18.3	-37 41	9.1	9.7	A2	5	..	21440b	54	12855	18.6	-31 20	8.8	8.6	A2	5	..	17050b
5	10768	18.3	-44 1	9.9	9.9	B8	4	..	23764b	55	10429	18.6	-39 44	10.5	10.9	Ao	3	..	21440b
6	10727	18.3	-46 21	10.1	9.3	A5	3	2,3	20080b	56	10640	18.6	-45 19	8.6	8.8	Bo	5	..	21842b
7	10653	18.3	-49 12	7.1	7.9	Ko	6	..	20092b	57	10732	18.6	-46 44	9.1	8.4	Ao	2	..	20092b
8	10517	18.3	-50 51	9.9	9.6	F8	3	..	21832b	58	10742	18.6	-47 25	11.6	10.2	Ao	2	..	20080b
9	10157	18.3	-51 57	10.1	10.2	K5	2	..	21832b	59	10526	18.6	-50 52	11.6	10.5	A2	2	..	21832b
10	7968	18.3	-54 1	8.9	8.9	Ao	3	..	19926b	60	10525	18.6	-51 1	11.0	10.5	Ao	2	..	21832b
11	6740	18.3	-59 22	8.9	9.5	B9	4	..	19640b	61	7696	18.6	-56 39	9.2	10.4	K2	2	..	19640b
12	6739	18.3	-59 32	8.7	8.0	B9	7	..	19640b	62	8011	18.6	-57 24	10.3	10.3	B9	1	..	19640b
13	2726	18.3	-68 19	9.1	9.1	Ao	5	..	42473b	63	5336	18.6	-62 4	8.8	9.9	K2	3	..	19902b
14	2235	18.3	-70 17	9.4	9.4	Ao	3	..	42473b	64	1669	18.7	+60 1	7.56	8.34	G5	4	..	37746i
15	1887	18.4	+56 16	8.8	9.1	Fo	5	..	38767i	65	1836	18.7	+55 30	9.6	10.6	Ko	1	..	38767i
16	1835	18.4	+55 10	9.0	9.3	F2	4	..	38767i	66	2083	18.7	+51 33	8.7	9.8	K2	1	..	38766i
17	3011	18.4	+17 37	8.1	8.6	F8	3	..	38771i	67	2774	18.7	+33 56	5.28	6.46	K5	7	R	38504i
18	3172	18.4	+4 45	9.10	10.28	K5	1	..	19235b	68	2554	18.7	+28 41	8.5	9.0	F8	2	..	38774i
19	3220	18.4	+1 46	8.9	9.7	G5	4	..	17083b	69	3089	18.7	+19 44	7.28	7.28	Ao	7	R	38771i
20	3515	18.4	+0 20	9.1	9.5	F5	2	..	40289b	70	3129	18.7	+13 29	8.5	9.3	G5	1	..	37872i
21	10927	18.4	-27 44	8.8	10.6	K2	1	..	40325b	71	3217	18.7	+6 49	9.3	9.6	Fo	3	..	19235b
22	12513	18.4	-29 28	6.59	6.8	Go	..	O, R	56, 138	72	3218	18.7	+6 32	9.8	10.9	K2	1	..	19235b
23	12513	18.4	-29 29	5.94	6.8	Go	..	O, R	56, 138	73	3174	18.7	+4 17	9.1	9.2	A2	4	..	19235b
24	10927	18.4	-35 55	7.9	8.5	A3	7	..	14373b	74	4227	18.7	-8 53	8.9	10.0	K2	2	..	40607b
25	10637	18.4	-45 46	10.1	9.6	Ao	2	..	21842b	75	4129	18.7	-11 40	7.47	7.81	F2	8	..	40589b
26	10739	18.4	-47 26	9.5	9.3	Ao	5	..	20080b	76	4418	18.7	-13 25	8.6	9.6	Ko	5	..	40589b
27	10656	18.4	-49 9	9.7	10.2	K2	3	..	21832b	77	4417	18.7	-14 51	8.9	9.7	G5	3	..	40589b
28	10520	18.4	-50 20	10.1	9.6	Ao	5	..	21832b	78	4562	18.7	-17 32	9.52	9.94	F5	2	..	40615b
29	10521	18.4	-50 55	8.7	8.4	Ao	4	..	23045b	79	12856	18.7	-31 12	7.10	7.2	Ao	8	..	17050b
30	10160	18.4	-51 7	9.5	10.2	Ko	3	..	21832b	80	10387	18.7	-40 31	11.0	10.0	B9	2	..	23764b
31	3488	18.4	-64 26	8.7	9.0	Fo	7	..	19902b	81	11270	18.7	-42 24	9.5	9.5	Ao	5	..	23764b
32	607	18.4	-84 4	9.2	9.7	F8	1	..	43458b	82	10775	18.7	-43 51	10.3	10.2	B9	2	..	23764b
33	1809	18.5	+54 39	7.71	7.79	A3	6	..	38767i	83	10658	18.7	-49 15	9.9	9.1	B9	4	..	21832b
34	3073	18.5	+25 13	9.4	10.2	G5	1	..	38770i	84	10531	18.7	-50 16	11.6	10.1	G5	2	..	21832b
35	3042	18.5	+14 3	7.6	7.9	F2	4	..	38727i	85	9819	18.7	-52 6	10.0	10.1	A3	4	..	21832b
36	3090	18.5	+2 30	9.1	9.7	G	2	..	17083b	86	9814	18.7	-52 27	10.4	10.4	B9	2	..	21832b
37	3091	18.5	+2 27	9.0	10.0	Ko	2	..	17083b	87	3923	18.7	-63 50	5.30	5.5	Fo	..	R	56, 138
38	3178	18.5	-2 3	8.32	9.32	Ko	3	..	40289b	88	2084	18.8	+51 8	8.7	9.5	G5	2	..	38766i
39	4276	18.5	-7 41	9.5	10.9	Ma	1	..	40607b	89	3161	18.8	+7 23	9.5	10.3	G5	2	..	19235b
40	4377	18.5	-9 8	8.4	9.2	G5	4	..	40607b	90	12519	18.8	-30 1	9.6	10.8	K2	2	..	40325b
41	4308	18.5	-10 49	9.5	9.6	A2	3	..	40607b	91	12857	18.8	-31 29	10.5	9.9	Ao	1	..	17050b
42	4162	18.5	-22 26	7.8	8.7	F8	6	..	40316b	92	10389	18.8	-40 26	10.8	10.0	Ao	2	..	23764b
43	11329	18.5	-26 35	8.4	8.4	F8	5	..	40325b	93	10388	18.8	-40 33	9.1	9.1	F8	5	..	23764b
44	10818	18.5	-48 57	11.6	10.1	K2	2	..	21832b	94	10645	18.8	-42 1	9.9	10.0	F5	3	..	23764b
45	10657	18.5	-49 38	9.9	10.5	K2	2	..	21832b	95	11273	18.8	-42 4	10.1	10.5	G5	2	..	23764b
46	7975	18.5	-53 12	8.1	9.6	Ma	4	..	19344b	96	10645	18.8	-45 23	9.7	9.6	B9	2	..	21842b
47	6741	18.5	-59 17	8.2	8.6	B9	7	..	19640b	97	9820	18.8	-52 40	10.1	10.1	B9	3	..	21832b
48	2082	18.6	+51 44	8.2	9.0	G5	3	E	37609i	98	9821	18.8	-52 52	9.9	10.4	F8	2	..	21832b
49	2773	18.6	+34 2	5.36	6.71	Ma	8	R	38504i	99	8015	18.8	-57 54	7.8	8.0	Ko	10	..	19640b
50	3012	18.6	+17 42	8.1	8.7	Go	2	..	38771i	100	6793	18.8	-58 20	9.7	9.8	A2	2	..	19640b

## THE HENRY DRAPER CATALOGUE.

147800

16<sup>h</sup> 18<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2727	18.8	-68 12	9.0	9.4	F5	3	..	42473b	51	2717	19.2	+32 51	7.9	9.1	K5	2	..	38774i
2	1163	18.8	-76 17	8.2	9.0	G5	4	..	42633b	52	2999	19.2	+24 53	9.21	9.99	G5	1	..	38770i
3	1587	18.9	+61 44	8.8	9.3	F8	5	..	37746i	53	4177	19.2	-2 15	10.0	10.3	F2	1	..	40289b
4	3221	18.9	+1 19	9.1	9.2	A2	4	..	17083b	54	4379	19.2	-9 36	9.0	9.3	Fo	4	..	40607b
5	3180	18.9	-2 6	9.07	9.41	F2	1	..	40289b	55	4565	19.2	-17 52	9.8	10.0	K2	1	..	40615b
6	4424	18.9	-6 11	9.0	10.2	K5	3	..	41229b	56	12861	19.2	-31 7	8.6	9.2	F5	3	..	17050b
7	4563	18.9	-17 20	8.55	8.97	F5	5	..	40615b	57	12863	19.2	-31 51	7.6	8.1	F2	7	..	17050b
8	4165	18.9	-22 26	10.2	10.2	Ko	1	..	40316b	58	10785	19.2	-37 41	10.5	11.4	Ao	2	..	21440b
9	11501	18.9	-25 8	8.80	8.4	Ao	5	..	40316b	59	11277	19.2	-42 22	10.1	10.3	A3	2	..	23764b
10	13125	18.9	-30 35	9.3	9.5	Go	3	..	40611b	60	10829	19.2	-48 12	7.9	7.9	A2	5	..	20092b
11	10777	18.9	-43 7	11.0	10.2	Fo	3	..	23764b	61	10668	19.2	-49 38	10.3	10.1	Fo	3	..	21832b
12	10851	18.9	-44 30	9.2	10.2	Mb	2	..	23764b	62	9831	19.2	-52 39	9.6	10.1	F8	6	..	21832b
13	7980	18.9	-53 5	9.8	10.3	F8	2	..	19344b	63	6796	19.2	-58 58	9.2	9.5	Ao	3	..	19640b
14	5338	18.9	-62 23	8.1	8.4	F2	7	..	19902b	64	5340	19.2	-62 37	9.3	9.8	F8	2	..	19902b
15	2959	18.9	-66 7	9.4	10.2	G5	1	..	42473b	65	3118	19.2	-67 47	10.0	10.0	Ao	2	..	42473b
16	3117	18.9	-67 16	8.5	9.6	K2	4	..	42473b	66	2913	19.3	+21 17	8.3	9.3	Ko	2	..	38771i
17	2729	18.9	-68 14	9.0	9.1	A5	4	..	42473b	67	2937	19.3	+16 19	8.4	9.0	Go	3	..	38727i
18	1837	19.0	+55 20	9.1	9.9	G5	3	..	38767i	68	3134	19.3	+13 3	8.3	8.8	F8	1	..	38782i
19	2568	19.0	+44 45	8.82	9.60	G5	3	..	37730i	69	3164	19.3	+7 10	5.72	5.72	Ao	7	R	561b
20	4351	19.0	-22 1	8.2	8.8	Ko	7	..	40316b	70	3224	19.3	+1 29	8.5	9.7	K5	3	..	17083b
21	10930	19.0	-27 26	8.2	9.8	K2	3	..	40325b	71	3517	19.3	+0 3	8.78	9.06	K5	1	..	40289b
22	10762	19.0	-37 2	9.5	10.6	A2	3	..	21440b	72	12864	19.3	-31 29	7.92	8.3	A3	6	..	17050b
23	10391	19.0	-40 24	10.3	10.5	B9	2	..	23764b	73	11167	19.3	-33 21	8.0	8.4	Go	7	..	17050b
24	10392	19.0	-40 31	10.1	10.0	Ao	3	R	23764b	74	10764	19.3	-36 31	10.3	10.3	A3	4	..	21440b
25	11275	19.0	-43 1	10.1	9.7	Fo	4	..	23764b	75	10401	19.3	-41 0	8.8	9.1	A5	5	..	23764b
26	10827	19.0	-48 36	10.3	9.6	Ao	2	..	21842b	76	10540	19.3	-50 22	10.3	9.6	Ao	5	..	21832b
27	10537	19.0	-50 30	10.3	10.1	F5	3	..	21832b	77	10538	19.3	-50 55	8.7	8.4	B9	6	..	23045b
28	10536	19.0	-50 38	10.6	9.9	A2	4	..	21832b	78	9835	19.3	-52 10	10.6	10.6	Ao	2	R	21832b
29	8016	19.0	-57 24	9.4	10.4	Ko	1	..	19640b	79	9836	19.3	-52 10	10.6	10.6	Ao	2	R	21832b
30	5682	19.0	-61 13	9.8	9.8	B9	2	..	19902b	80	9838	19.3	-53 1	8.2	7.9	B8	7	..	19344b
31	3925	19.0	-63 9	9.4	9.4	Ao	2	..	19902b	81	7550	19.3	-56 3	9.5	9.5	B9	2	..	19640b
32	258	19.0	-87 7	8.6	8.9	F2	7	..	22980b	82	6744	19.3	-59 38	9.2	8.6	Ao	4	..	19902b
33	1266	19.1	+63 28	8.9	9.5	Go	3	..	37746i	83	6530	19.3	-60 31	7.8	9.5	K2	5	..	19902b
34	1962	19.1	+52 20	9.3	10.1	G5	1	..	38766i	84	3119	19.3	-67 33	8.8	9.6	G5	4	..	42473b
35	2716	19.1	+32 34	6.20	6.26	A2	8	..	20914i	85	2731	19.3	-68 12	9.5	10.6	K2	1	..	39343b
36	2977	19.1	+11 49	7.7	8.7	Ko	1	..	38727i	86	2978	19.4	+11 39	7.9	9.1	K5	2	..	38727i
37	3163	19.1	+6 56	8.6	9.6	Ko	5	..	19235b	87	3166	19.4	+7 41	8.1	8.6	F8	7	..	19235b
38	10931	19.1	-27 30	8.8	9.9	K2	2	..	40325b	88	12860	19.4	-23 14	6.56	7.1	B3	..	2,9	56,138
39	10397	19.1	-40 20	9.1	10.3	Ko	1	..	23764b	89	12684	19.4	-24 14	8.0	8.3	B3	5	..	40316b
40	10395	19.1	-40 38	8.8	10.5	K2	1	..	23764b	90	12529	19.4	-29 11	7.56	8.0	B8	7	..	40611b
41	10649	19.1	-45 34	7.7	8.8	K5	1	..	20092b	91	12528	19.4	-29 38	9.8	9.9	Fo	2	..	40611b
42	10665	19.1	-49 19	9.5	9.0	A2	6	..	21832b	92	10432	19.4	-39 7	8.8	9.1	A2	5	0,4	19343b
43	9830	19.1	-52 21	10.0	10.1	A2	4	..	21832b	93	10403	19.4	-40 28	9.4	10.5	K2	1	..	23764b
44	9829	19.1	-52 29	9.1	10.2	K2	4	..	21832b	94	10752	19.4	-47 50	7.3	7.3	B8	4	..	3930b
45	7698	19.1	-54 45	7.42	7.7	Fo	4	0,7	36341b	95	10672	19.4	-49 53	10.6	9.6	B8	5	..	21832b
46	8018	19.1	-57 12	9.9	10.4	F8	1	..	19640b	96	10543	19.4	-50 9	8.7	9.6	K2	3	..	23045b
47	8017	19.1	-57 38	9.6	10.7	K2	1	..	19640b	97	10544	19.4	-50 17	10.3	9.6	A5	4	..	21832b
48	5683	19.1	-61 24	7.7	9.0	K2	6	..	19902b	98	10181	19.4	-51 33	9.3	8.4	F2	7	..	19926b
49	3927	19.1	-63 45	9.0	9.6	Go	1	..	19902b	99	6797	19.4	-58 4	10.1	10.1	Ao	1	..	19640b
50	1670	19.2	+57 33	9.3	9.9	Go	2	..	38767i	100	2960	19.4	-66 59	9.3	10.1	G5	3	..	42473b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

147900

16<sup>h</sup> 19<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	481	19.5	+82 20	8.8	8.9	A2	5	0,4	37813i	51	2499	19.7	+49 50	9.32	10.32	Ko	1	..	38766i
2	1115	19.5	+65 14	8.6	8.7	A5	5	..	37746i	52	3092	19.7	+19 52	7.94	8.72	G5	3	..	38771i
3	1810	19.5	+54 17	9.2	10.2	Ko	3	..	38767i	53	3017	19.7	+17 36	8.5	9.0	F8	1	..	38771i
4	3167	19.5	+7 36	9.5	10.0	F8	2	..	19235b	54	4501	19.7	-12 57	9.2	10.3	K2	3	..	40589b
5	3193	19.5	+5 45	8.5	8.8	F2	5	..	19235b	55	11336	19.7	-26 21	8.0	7.6	Ao	7	..	40325b
6	3225	19.5	+1 24	8.5	8.9	F5	8	..	17083b	56	13135	19.7	-31 1	8.8	8.7	F8	5	..	17050b
7	4179	19.5	-2 16	7.00	7.34	F2	8	..	40289b	57	10991	19.7	-34 43	8.9	10.0	Ko	1	..	39300b
8	4281	19.5	-7 24	9.0	9.6	Go	4	..	40607b	58	10836	19.7	-48 34	7.4	8.7	K5	2	..	20092b
9	4132	19.5	-11 40	8.9	10.1	K5	1	..	40589b	59	10549	19.7	-50 10	9.0	8.7	B9	4	..	23045b
10	4419	19.5	-13 49	9.3	10.5	K5	1	..	40589b	60	10189	19.7	-51 32	9.5	9.3	K2	2	..	19926b
11	4353	19.5	-21 28	8.8	9.0	Ao	5	..	40087b	61	5344	19.7	-62 24	9.0	9.0	Ao	4	..	19902b
12	12866	19.5	-31 56	9.6	9.5	Ao	2	..	17050b	62	3493	19.7	-64 37	9.0	9.6	Go	3	..	19902b
13	11280	19.5	-42 6	11.6	10.6	A2	2	..	23764b	63	3169	19.8	+7 38	9.1	9.9	G5	4	..	19235b
14	10859	19.5	-44 15	10.1	10.2	G5	2	..	23764b	64	3170	19.8	+7 1	9.5	10.5	Ko	2	..	19235b
15	9840	19.5	-52 26	8.8	8.8	B9	5	..	19344b	65	3195	19.8	+5 29	9.1	10.1	Ko	2	..	19235b
16	9841	19.5	-52 58	9.2	10.1	Ko	1	..	19344b	66	4282	19.8	-7 45	9.2	10.3	K2	2	..	40607b
17	8022	19.5	-57 43	9.6	10.7	K2	1	..	19640b	67	4381	19.8	-9 38	8.4	8.7	Fo	6	..	40607b
18	8023	19.5	-57 52	9.3	9.3	B9	4	..	19640b	68	10789	19.8	-37 40	10.3	11.4	Go	2	..	21440b
19	6798	19.5	-58 35	9.0	9.9	Go	3	..	19640b	69	11282	19.8	-42 45	10.1	10.6	G5	1	..	23764b
20	5684	19.5	-61 30	9.7	9.8	A2	2	..	19902b	70	10764	19.8	-47 20	7.46	7.46	A	..	R	28,211
21	5343	19.5	-62 7	8.5	9.5	Ko	2	..	19902b	71	10765	19.8	-47 20	4.80	4.68	B5	..	R	28,211
22	5342	19.5	-62 55	8.7	8.8	A5	5	..	19902b	72	10552	19.8	-50 46	9.5	10.1	Ko	2	..	23045b
23	1671	19.6	+57 7	7.64	8.99	Ma	4	..	38767i	73	9848	19.8	-52 15	8.1	7.7	B9	8	..	19344b
24	2570	19.6	+44 19	7.44	7.44	Ao	7	..	37730i	74	9847	19.8	-52 33	7.8	8.5	Ko	7	..	19344b
25	2810	19.6	+35 50	7.42	8.42	Ko	3	..	38504i	75	9849	19.8	-52 42	9.4	10.4	Ko	1	..	19344b
26	3259	19.6	+20 38	8.3	9.3	Ko	1	..	38771i	76	7553	19.8	-55 17	9.9	9.9	Ao	2	..	19640b
27	2938	19.6	+16 23	8.6	9.6	Ko	1	..	38727i	77	6800	19.8	-58 23	5.78	5.9	B9	..	0,9	56,138
28	2996	19.6	+10 29	7.20	8.38	K5	7	..	19235b	78	1731	19.8	-73 48	7.9	9.0	K2	2	..	11726b
29	4180	19.6	-2 15	8.2	9.6	Mb	2	..	40289b	79	1312	19.8	-75 44	7.7	7.7	Ao	8	..	42633b
30	4320	19.6	-15 58	9.0	9.0	Ao	5	..	40615b	80	2559	19.9	+28 37	7.47	8.47	Ko	4	..	38770i
31	4368	19.6	-19 37	8.71	9.0	Ao	5	..	40615b	81	2639	19.9	+27 35	8.7	9.5	G5	1	..	38770i
32	12862	19.6	-23 10	7.13	7.6	A	5	R	40087b	82	3177	19.9	+4 17	9.5	9.6	A2	2	..	19235b
33	12861	19.6	-23 13	5.22	5.10	B5	..	R	56,138	83	4321	19.9	-15 52	8.8	9.3	F8	5	..	40615b
34	12861	19.6	-23 14	5.92	5.80	B5	..	R	56,138	84	10944	19.9	-35 43	9.2	10.1	Go	3	..	21440b
35	10934	19.6	-27 36	9.3	9.2	G5	4	..	40325b	85	10792	19.9	-43 35	7.9	7.7	B8	8	..	21842b
36	12531	19.6	-29 42	7.6	8.4	G5	6	..	40611b	86	10791	19.9	-43 42	8.4	8.2	B9	6	..	21842b
37	13134	19.6	-30 13	8.93	9.2	F2	4	..	40611b	87	10554	19.9	-50 52	9.2	8.4	B8	5	..	23045b
38	10989	19.6	-34 45	8.24	8.3	F8	5	..	14373b	88	9852	19.9	-52 25	8.6	9.3	Ko	4	..	19344b
39	10656	19.6	-41 44	9.5	10.0	Ao	3	..	23764b	89	7554	19.9	-55 56	9.1	9.2	A5	4	..	19640b
40	10654	19.6	-41 59	10.5	10.2	A2	2	..	23764b	90	6802	19.9	-58 5	10.3	10.3	Ao	1	..	19640b
41	10675	19.6	-49 51	11.6	10.2	Ao	3	..	21832b	91	6801	19.9	-58 27	9.5	9.6	A5	3	..	19640b
42	7991	19.6	-53 54	9.2	9.2	B5	4	..	19926b	92	6533	19.9	-60 57	9.2	9.5	Ao	5	..	19902b
43	7701	19.6	-54 54	9.1	9.5	B8	3	..	19640b	93	5691	19.9	-61 51	8.7	9.8	K5	2	..	19902b
44	8025	19.6	-57 28	10.3	10.3	Ao	1	..	19640b	94	2734	19.9	-68 32	9.3	10.3	Ko	1	..	39343b
45	6746	19.6	-59 43	8.7	8.6	B9	5	..	19902b	95	1124	20.0	+64 35	9.2	9.7	F8	2	..	37746i
46	6531	19.6	-60 44	9.0	9.6	B9	3	..	19902b	96	3188	20.0	+8 54	8.3	8.8	F8	5	..	19235b
47	6532	19.6	-60 54	8.8	9.8	F5	4	R	19902b	97	3196	20.0	+5 35	9.5	9.5	Ao	3	..	19235b
48	6532	19.6	-60 54	8.8	9.8	A2	4	R	19902b	98	13139	20.0	-31 1	9.8	9.9	F5	1	..	17050b
49	3491	19.6	-64 50	9.0	9.0	Ao	5	..	19902b	99	10949	20.0	-35 26	9.7	10.1	Ao	3	..	21440b
50	1811	19.7	+54 46	8.71	9.78	K2	2	..	38767i	100	10408	20.0	-40 50	9.5	9.5	A2	3	..	23764b

## THE HENRY DRAPER CATALOGUE.

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16<sup>h</sup> 20<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10795	20.0	-43 10	9.2	9.0	B8	6	..	23764b	51	2560	20.4	+28 31	8.7	9.7	Ko	1	..	38774i
2	10556	20.0	-50 4	11.6	10.4	F5	2	..	21832b	52	2969	20.4	+22 38	7.8	7.9	A2	7	..	38771i
3	7705	20.0	-56 49	8.7	10.4	K5	1	..	19640b	53	4134	20.4	-11 58	9.5	10.5	Ko	2	..	40287b
4	874	20.1	+70 36	7.46	7.96	F8	5	..	37752i	54	4425	20.4	-13 53	10.0	11.0	Ko	1	..	40287b
5	2821	20.1	+29 52	7.81	7.95	A5	5	..	38770i	55	10437	20.4	-39 36	8.1	8.3	A3	6	o,8	14373b
6	3019	20.1	+17 53	8.4	8.5	A2	2	..	38771i	56	10414	20.4	-40 25	9.5	10.0	Ao	3	..	23764b
7	4504	20.1	-12 27	9.5	10.3	G5	2	..	40287b	57	10412	20.4	-40 32	10.5	10.0	Ao	2	..	23764b
8	12536	20.1	-29 22	9.8	11.0	Ko	1	..	40325b	58	10773	20.4	-47 38	10.6	9.3	Ao	4	..	20080b
9	10659	20.1	-45 59	9.2	9.0	F8	5	..	20080b	59	10685	20.4	-49 50	10.3	10.1	F8	4	..	21832b
10	10840	20.1	-48 32	9.3	9.0	Go	5	..	20080b	60	10563	20.4	-50 10	11.0	10.1	Ao	2	..	21832b
11	10680	20.1	-49 28	9.7	9.1	Ao	5	..	21832b	61	7558	20.4	-55 42	8.8	9.0	B9	5	..	19640b
12	10681	20.1	-49 36	10.1	9.7	A2	4	..	21832b	62	7708	20.4	-56 52	9.2	9.3	B9	4	..	19640b
13	7703	20.1	-57 0	7.4	7.5	Ao	4	..	36341b	63	8026	20.4	-57 41	9.1	8.6	B3	5	..	19640b
14	947	20.2	+66 25	8.8	9.2	F5	3	..	37746i	64	6536	20.4	-60 14	9.2	9.5	A	2	..	19902b
15	1475	20.2	+62 18	8.8	9.6	G5	3	..	37746i	65	6535	20.4	-60 18	9.2	8.9	B9	3	..	19902b
16	1863	20.2	+53 45	9.3	10.3	Ko	3	..	38767i	66	3311	20.4	-65 50	8.1	8.1	B8	8	..	42473b
17	2088	20.2	+51 0	8.7	9.7	Ko	2	..	38766i	67	1164	20.4	-77 1	8.7	9.0	Fo	3	..	42633b
18	2995	20.2	+15 28	9.1	9.9	G5	1	..	38727i	68	2091	20.5	+50 58	9.6	10.4	G5	1	..	38766i
19	2994	20.2	+14 59	8.29	8.63	F2	3	..	38727i	69	2768	20.5	+38 54	7.9	8.9	Ko	3	..	38412i
20	3189	20.2	+8 25	8.6	8.6	Ao	8	..	19235b	70	4109	20.5	-4 16	10.4	10.4	Ao	1	..	40289b
21	4385	20.2	-9 51	8.2	8.2	Ao	7	..	40607b	71	4293	20.5	-5 52	8.7	9.8	K2	1	..	40289b
22	4424	20.2	-13 47	9.3	9.9	Go	4	..	40589b	72	10943	20.5	-27 10	10.8	10.3	Ao	4	..	40325b
23	10410	20.2	-40 20	8.8	9.7	B8	2	..	23764b	73	12114	20.5	-28 50	10.3	10.4	F8	1	..	40325b
24	11285	20.2	-42 15	8.5	10.0	K2	3	..	23764b	74	13147	20.5	-31 0	9.6	9.8	G5	2	..	17050b
25	10796	20.2	-43 15	9.0	10.2	Ko	2	..	23764b	75	10438	20.5	-39 6	9.5	11.1	K5	1	..	19343b
26	9859	20.2	-52 7	9.1	9.4	Fo	2	..	19926b	76	10848	20.5	-48 59	9.5	9.0	B8	5	..	21842b
27	7704	20.2	-54 23	9.9	9.9	B9	3	..	19926b	77	10564	20.5	-51 4	8.6	8.1	B9	6	..	23045b
28	7706	20.2	-56 11	8.5	8.7	B5	6	..	19640b	78	10203	20.5	-51 9	10.3	9.3	B9	2	..	23045b
29	3934	20.2	-63 19	8.7	9.3	Go	1	..	19902b	79	7711	20.5	-56 6	9.6	11.0	Mb	..	..	M
30	2963	20.2	-66 40	9.6	9.6	Ao	4	..	42473b	80	8028	20.5	-57 12	9.5	9.6	A2	3	..	19640b
31	2964	20.2	-66 57	9.7	9.7	Ao	3	..	42473b	81	3127	20.5	-67 51	7.8	7.8	Ao	6	..	42473b
32	608	20.2	-83 45	9.1	10.2	K2	1	..	43458b	82	2738	20.5	-68 4	9.0	9.1	A2	4	..	42473b
33	2334	20.3	+47 52	8.10	8.60	F8	5	..	37609i	83	722	20.6	+72 39	8.2	9.0	G5	2	..	37752i
34	3094	20.3	+19 44	8.66	9.44	G5	1	..	38771i	84	1671	20.6	+60 29	9.3	10.3	K	1	..	37746i
35	3228	20.3	+1 27	8.9	9.9	Ko	2	..	17083b	85	2703	20.6	+42 21	7.90	8.18	Fo	6	..	37730i
36	3227	20.3	+1 13	9.5	9.8	Fo	2	..	17083b	86	2746	20.6	+37 15	8.00	9.00	Ko	2	..	38504i
37	3229	20.3	+0 58	9.5	9.6	A3	4	..	17083b	87	4356	20.6	-21 34	9.2	10.2	F5	2	..	40087b
38	3939	20.3	-3 38	7.8	8.1	Fo	5	..	40289b	88	12115	20.6	-29 3	11.5	11.0	A	1	..	40325b
39	4292	20.3	-5 39	8.0	9.1	K2	2	..	40289b	89	13151	20.6	-30 54	9.4	10.4	K2	1	..	17050b
40	10940	20.3	-27 28	8.8	8.9	F8	6	..	40325b	90	11000	20.6	-34 6	8.8	10.6	K5	1	..	17050b
41	11714	20.3	-32 51	8.9	8.7	Ao	5	..	17050b	91	10772	20.6	-36 45	10.8	12.0	K5	1	..	21440b
42	10952	20.3	-35 37	10.3	10.6	Ko	1	..	21440b	92	1839	20.7	+55 2	9.8	10.8	Ko	2	..	38767i
43	10797	20.3	-43 33	8.1	9.6	Go	2	..	21842b	93	2396	20.7	+48 16	8.7	9.7	Ko	2	..	37609i
44	10683	20.3	-49 13	8.0	8.2	F5	3	..	20092b	94	2599	20.7	+43 19	8.2	8.3	A2	7	..	37730i
45	7710	20.3	-56 27	8.4	9.0	Go	4	..	19640b	95	2704	20.7	+42 5	9.3	10.1	G5	2	..	37730i
46	5350	20.3	-62 41	8.0	8.4	F5	7	..	19902b	96	2721	20.7	+32 43	8.1	9.3	K5	2	..	20914b
47	3125	20.3	-67 6	9.1	9.6	F8	4	..	42473b	97	2564	20.7	+28 0	8.8	8.9	A5	3	..	38770i
48	596	20.4	+75 59	5.04	5.32	Fo	..	o,8 R	56,93	98	2931	20.7	+23 2	8.5	9.5	Ko	1	..	38771i
49	2282	20.4	+50 35	7.34	7.84	F8	7	..	37609i	99	4430	20.7	-6 43	9.5	9.6	A5	4	..	40607b
50	2572	20.4	+44 37	8.4	8.5	A5	4	..	37730i	100	4283	20.7	-7 7	9.5	10.7	K5	1	..	40607b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

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16<sup>h</sup> 20<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
		m.	° ' "									m.	° ' "						
1	4232	20.7	- 9 0	9.5	9.6	A5	3	..	40607b	51	4508	21.0	-12 22	9.5	9.9	F5	1	..	40287b
2	13153	20.7	-30 24	10.1	10.7	K5	2	..	40325b	52	11508	21.0	-26 3	7.6	9.2	Ko	4	..	40325b
3	10665	20.7	-46 2	7.2	8.2	K5	3	..	20092b	53	11346	21.0	-26 58	8.0	8.0	F2	7	..	40325b
4	10854	20.7	-48 32	9.1	9.3	Ko	6	..	20080b	54	12545	21.0	-29 28	10.3	11.0	K2	1	..	40325b
5	10568	20.7	-50 30	8.7	8.5	A2	5	..	23045b	55	13158	21.0	-30 37	9.3	10.1	Go	2	..	40325b
6	8012	20.7	-53 59	9.1	8.9	B8	5	..	19926b	56	10768	21.0	-46 6	7.7	8.1	F8	4	..	20092b
7	7559	20.7	-55 8	10.1	10.1	Ao	1	..	19640b	57	7562	21.0	-55 17	9.0	9.2	Ao	4	..	19640b
8	7716	20.7	-56 29	8.6	8.9	F5	4	..	19640b	58	8033	21.0	-57 45	9.8	9.8	Ao	2	..	19640b
9	6747	20.7	-59 22	9.0	9.2	A2	5	..	19640b	59	3938	21.0	-63 50	9.6	9.6	Ao	1	..	19902b
10	1673	20.8	+60 17	8.6	9.6	Ko	3	..	37746i	60	3313	21.0	-65 42	8.8	8.8	B9	5	..	42473b
11	2769	20.8	+38 42	8.10	9.17	K2	2	..	38412i	61	948	21.1	+66 10	9.3	10.1	G5	2	..	37746i
12	3049	20.8	+14 16	4.53	4.53	Aop	..	R	56,93	62	2094	21.1	+51 38	9.3	9.4	A2	1	..	38766i
13	3224	20.8	+ 6 29	10.1	11.1	Ko	2	..	19235b	63	2824	21.1	+29 29	9.2	10.6	Mb	..	..	M
14	4284	20.8	- 7 58	8.8	10.0	K5	2	..	40607b	64	3013	21.1	+12 9	8.1	8.6	F8	2	..	38727i
15	4135	20.8	-11 15	8.4	9.6	K5	3	..	40607b	65	3226	21.1	+ 6 7	9.1	9.9	G5	2	..	19235b
16	4281	20.8	-18 54	9.2	10.0	G5	3	..	40615b	66	3100	21.1	+ 2 0	8.9	9.4	F8	5	..	17083b
17	11345	20.8	-26 31	11.3	10.4	Ao	1	..	40325b	67	12548	21.1	-29 15	9.4	9.5	A2	7	..	40325b
18	11344	20.8	-26 55	9.8	9.8	A2	5	..	40325b	68	12547	21.1	-29 35	9.8	10.7	F5	2	..	40325b
19	12117	20.8	-28 53	9.0	8.9	A2	6	..	40325b	69	11723	21.1	-32 4	9.5	10.4	F8	2	..	39300b
20	10774	20.8	-36 34	10.1	10.9	K2	2	..	21440b	70	10427	21.1	-40 44	9.1	9.7	F5	4	..	23764b
21	10800	20.8	-37 16	8.5	9.1	G5	4	..	14373b	71	10423	21.1	-40 58	9.1	10.3	K5	2	..	23764b
22	10807	20.8	-43 49	7.8	7.9	B5	3	3.7	43871b	72	11295	21.1	-42 30	9.7	9.7	G5	4	..	23764b
23	8032	20.8	-57 19	9.0	9.8	Mb	2	..	19640b	73	10810	21.1	-43 27	9.3	..	Nb	1	..	23764b
24	6748	20.8	-59 16	8.8	9.6	Ao	2	..	19640b	74	10881	21.1	-44 4	9.9	9.3	A2	3	..	21842b
25	5698	20.8	-62 0	8.9	8.9	B9	4	..	19902b	75	10212	21.1	-51 45	11.0	9.6	Ao	3	..	19926b
26	2735	20.9	+36 16	8.9	9.9	Ko	2	..	38412i	76	8017	21.1	-53 26	9.1	9.6	Ao	4	..	19926b
27	3003	20.9	+24 18	7.8	9.0	K5	2	..	38770i	77	2968	21.1	-66 30	8.7	9.7	Ko	4	..	42473b
28	3096	20.9	+19 29	7.30	8.48	K5	3	..	38771i	78	3051	21.2	+14 35	8.6	8.9	F2	3	..	38727i
29	3225	20.9	+ 5 57	8.5	8.8	Fo	6	..	19235b	79	4286	21.2	- 7 37	8.9	9.3	F5	5	..	40607b
30	3940	20.9	- 3 17	9.3	9.4	A2	1	..	40289b	80	4234	21.2	- 8 30	8.2	8.5	Fo	7	..	40607b
31	4387	20.9	- 9 29	8.9	9.5	Go	5	..	40607b	81	4389	21.2	- 9 30	8.9	9.2	Fo	5	..	40607b
32	4427	20.9	-13 58	10.0	10.8	G5	1	..	40287b	82	4510	21.2	-12 12	var.	var.	Nb	..	R	M
33	12542	20.9	-29 7	10.5	10.3	F8	2	..	40325b	83	4429	21.2	-13 37	8.8	8.9	A3	4	..	40287b
34	13156	20.9	-30 9	10.5	10.4	G5	2	..	40325b	84	4282	21.2	-18 14	4.85	4.68	B3p	..	R	56,93
35	10958	20.9	-35 14	9.7	9.7	Ao	3	..	21440b	85	4359	21.2	-21 57	10.2	9.9	Ao	3	..	40087b
36	10997	20.9	-38 39	Cl.	Cl.	Con.	..	R	M	86	12549	21.2	-29 9	8.8	9.8	Ko	4	..	40325b
37	10442	20.9	-39 51	9.1	10.0	F8	3	..	19343b	87	10961	21.2	-35 34	9.2	9.7	Go	2	..	21440b
38	10667	20.9	-41 4	8.1	8.3	F5	8	..	23764b	88	10444	21.2	-39 44	9.1	10.0	Ao	2	..	19343b
39	11291	20.9	-42 38	9.3	9.4	A2	5	..	23764b	89	11297	21.2	-42 40	9.1	9.5	A2	4	..	23764b
40	10856	20.9	-48 6	9.9	9.6	F8	5	..	20080b	90	10781	21.2	-47 43	10.6	9.6	B9	5	..	20080b
41	10572	20.9	-50 39	10.6	9.1	A2	3	..	23045b	91	7719	21.2	-56 35	8.6	9.2	G5	4	..	19640b
42	7718	20.9	-56 28	10.0	10.1	A5	2	..	19640b	92	6538	21.2	-60 34	8.2	8.0	Ao	8	..	19902b
43	7717	20.9	-56 57	9.5	9.9	F5	1	..	19640b	93	1842	21.3	+54 56	10.0	11.0	Ko	1	..	38767i
44	6749	20.9	-59 9	8.8	9.8	Ao	2	..	19640b	94	2285	21.3	+50 26	8.2	9.2	Ko	2	..	37609i
45	5700	20.9	-61 36	9.4	10.6	K5	1	..	19902b	95	2174	21.3	+46 10	8.2	9.0	G5	6	0.4	37730i
46	5699	20.9	-61 48	8.6	9.2	Go	3	..	19902b	96	2770	21.3	+38 23	8.6	8.7	A5	2	..	38412i
47	3022	21.0	+17 31	7.86	8.42	Go	5	..	38771i	97	3191	21.3	+ 8 17	9.5	10.0	F8	1	..	19235b
48	3203	21.0	+ 9 37	6.90	7.97	K2	7	..	19235b	98	4572	21.3	-17 32	7.16	7.66	F8	8	..	40615b
49	3204	21.0	+ 8 57	8.9	9.0	A2	5	..	19235b	99	12551	21.3	-29 4	6.90	7.2	B9	10	..	40325b
50	4110	21.0	- 4 27	9.3	10.4	K2	1	..	40289b	100	11009	21.3	-34 54	8.88	10.6	Ma	1	..	17050b



THE HENRY DRAPER CATALOGUE.

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16<sup>h</sup> 21<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
		m.	° ' "									m.	° ' "						
1	10778	21.3	-36 37	10.3	10.6	Ao	4	..	21440b	51	3502	21.6	-64 46	8.7	9.0	Fo	5	..	19902b
2	7717	21.3	-54 48	8.8	9.3	A2	3	..	19926b	52	2970	21.6	-66 49	8.9	9.3	F5	4	..	42473b
3	6809	21.3	-58 4	9.0	9.0	B9	4	..	19640b	53	2400	21.7	+44 56	7.17	7.59	F5	8	0.9	37609i
4	1590	21.4	+61 40	8.0	9.1	K2	3	..	37746i	54	3203	21.7	+5 34	8.1	9.1	Ko	4	..	19235b
5	3079	21.4	+25 27	7.9	8.9	Ko	2	..	38770i	55	4189	21.7	-2 46	8.3	9.7	Ma	2	..	40289b
6	3098	21.4	+19 7	var.	var.	Md	3	R	38771i	56	10950	21.7	-27 5	9.8	10.1	Ao	3	..	40325b
7	3103	21.4	+2 44	6.56	6.56	Ao	10	..	17083b	57	13167	21.7	-30 49	9.4	9.8	F5	2	..	17050b
8	3102	21.4	+2 30	10.1	11.2	K2	2	..	17083b	58	10438	21.7	-40 42	10.1	10.9	K5	1	..	23764b
9	3188	21.4	-1 35	9.3	10.5	K5	1	..	40289b	59	10889	21.7	-44 36	7.2	7.4	B3	5	1.5	43871b
10	4235	21.4	-8 40	9.8	10.1	Fo	3	..	40607b	60	10888	21.7	-44 49	7.8	8.1	B2	7	..	21842b
11	4360	21.4	-21 53	7.63	8.2	F8	9	..	40087b	61	10227	21.7	-51 21	7.2	7.8	Ko	6	..	19926b
12	12688	21.4	-24 56	9.58	9.9	F5	3	..	40087b	62	9879	21.7	-53 2	9.4	9.4	B8	2	..	19926b
13	10445	21.4	-39 14	9.5	10.5	F8	2	..	19343b	63	6813	21.7	-58 27	9.5	10.3	G5	3	..	19640b
14	10775	21.4	-46 48	9.0	7.9	B9	4	..	20092b	64	527	21.7	-85 3	8.9	9.4	F8	2	..	13458b
15	10866	21.4	-48 22	9.5	8.8	B9	2	..	20092b	65	2840	21.8	+26 22	10.0	10.0	A	2	..	38770i
16	10701	21.4	-49 16	10.1	9.6	Ao	3	..	21842b	66	3195	21.8	+8 11	8.9	9.9	Ko	1	..	19235b
17	7719	21.4	-54 20	8.8	9.2	Fo	4	..	19926b	67	3235	21.8	+1 15	9.1	9.6	F8	3	..	17083b
18	8035	21.4	-57 32	5.99	7.5	Ko	4	R	36341b	68	4190	21.8	-2 40	8.8	9.2	F5	2	..	40289b
19	6540	21.4	-60 21	9.2	9.8	Go	2	..	19902b	69	4319	21.8	-10 33	9.5	10.6	K2	2	..	40607b
20	3316	21.4	-65 23	9.5	9.5	Ao	2	..	39343b	70	4283	21.8	-18 15	9.8	9.8	A	1	..	40615b
21	2743	21.4	-68 42	9.6	10.0	F5	1	..	39343b	71	10685	21.8	-45 23	9.7	9.6	B8	2	..	21842b
22	2572	21.4	-69 6	9.3	9.4	A3	1	..	39343b	72	10871	21.8	-48 44	9.7	8.8	A3	7	..	20080b
23	2023	21.4	-71 44	8.8	8.8	Ao	5	..	42473b	73	7563	21.8	-55 22	10.1	10.1	Ao	1	..	19640b
24	1127	21.5	+64 32	8.9	9.9	Ko	2	..	37746i	74	6814	21.8	-58 58	9.6	9.6	Ao	3	..	19640b
25	1126	21.5	+63 56	9.5	10.3	G5	2	..	37746i	75	6542	21.8	-60 34	8.4	8.7	F8	6	..	19902b
26	1476	21.5	+61 55	8.8	9.6	G5	3	..	37746i	76	3503	21.8	-65 0	8.7	8.7	Ao	7	..	19902b
27	3006	21.5	+24 47	8.56	9.06	F8	2	..	38770i	77	2971	21.8	-67 0	8.9	9.7	G5	2	..	42473b
28	2984	21.5	+11 40	6.21	7.21	Ko	7	0.7	38727i	78	1216	21.8	-77 32	8.9	10.0	K2	1	..	42633b
29	3194	21.5	+8 45	7.6	8.6	Ko	8	..	19235b	79	1635	21.9	+57 56	9.3	10.1	G5	2	..	38767i
30	3234	21.5	+1 0	8.54	9.61	K2	4	..	17083b	80	1843	21.9	+55 24	9.5	10.7	K5	1	..	38767i
31	4138	21.5	-12 3	9.8	10.4	Go	2	..	40287b	81	1964	21.9	+52 31	6.69	6.69	Ao	8	0.10	38767i
32	4430	21.5	-13 24	9.3	9.3	Ao	4	..	40287b	82	2772	21.9	+38 8	8.3	9.3	Ko	1	..	38412i
33	10964	21.5	-35 34	8.9	9.2	Ao	3	..	17050b	83	2750	21.9	+37 37	5.53	5.61	A3	10	..	38504i
34	10780	21.5	-36 20	10.8	10.9	Ao	2	..	21440b	84	2811	21.9	+30 30	9.1	10.1	Ko	2	..	38774i
35	10779	21.5	-36 29	10.8	10.9	G5	2	..	21440b	85	3082	21.9	+25 22	8.9	9.9	Ko	1	..	38770i
36	2573	21.5	-69 33	8.6	10.0	Ma	1	..	39343b	86	3000	21.9	+15 20	7.47	8.47	Ko	5	..	38727i
37	2250	21.5	-70 18	9.3	9.7	F5	1	..	42473b	87	3106	21.9	+2 35	6.18	6.96	G5	10	..	17083b
38	1721	21.6	+58 57	8.8	9.6	G5	3	..	38767i	88	4168	21.9	-22 22	9.8	9.6	F2	3	..	40087b
39	2707	21.6	+42 14	8.2	9.2	Ko	2	..	37730i	89	11001	21.9	-38 10	8.1	10.5	K2	2	..	19343b
40	2703	21.6	+41 45	8.6	9.2	Go	3	..	37730i	90	10819	21.9	-43 14	8.0	8.2	F8	7	..	19343b
41	3056	21.6	+14 32	8.1	8.2	A3	4	..	38727i	91	5701	21.9	-61 25	5.11	7.5	Ko	..	0.10	56,138
42	3227	21.6	+6 51	9.5	10.5	Ko	1	..	19235b	92	3947	21.9	-63 36	9.0	9.1	A5	3	..	19902b
43	3202	21.6	+5 49	9.1	9.7	Go	2	..	19235b	93	845	22.0	+69 20	5.44	6.44	Ko	..	0.9	56,93
44	3942	21.6	-3 34	9.8	10.4	Go	1	..	40289b	94	1477	22.0	+62 43	9.1	10.1	Ko	3	..	37746i
45	4317	21.6	-10 55	10.0	10.0	Ao	2	..	40607b	95	2934	22.0	+23 19	8.3	9.7	Ma	1	..	38770i
46	4140	21.6	-11 52	8.8	9.4	Go	4	..	40287b	96	2987	22.0	+11 13	7.04	8.39	Ma	3	..	38727i
47	10783	21.6	-36 58	5.87	7.2	Ko	..	0.9	56,138	97	3208	22.0	+9 31	6.81	7.81	Ko	8	..	19235b
48	10670	21.6	-41 42	10.3	10.6	Ao	1	..	23764b	98	3209	22.0	+9 20	9.1	9.4	F2	3	..	19235b
49	10225	21.6	-51 20	9.9	9.0	G	2	..	19926b	99	3197	22.0	+8 37	9.0	9.8	G5	2	..	19235b
50	7721	21.6	-56 22	9.0	9.2	A2	4	..	19640b	100	4241	22.0	-8 20	9.5	10.3	G5	4	..	40607b



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16<sup>h</sup> 22<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4433	m. 22.0	° -13 55	9.8	10.4	Go	2	..	40287b	51	4575	m. 22.3	° -17 37	8.6	9.4	G5	5	..	40615b
2	11350	22.0	-26 14	9.8	10.3	A3	2	..	40325b	52	12690	22.3	-24 32	7.5	7.9	F2	8	..	40087b
3	13172	22.0	-30 55	8.1	9.5	K2	4	..	17050b	53	11353	22.3	-26 15	10.3	10.4	K2	2	..	40325b
4	10807	22.0	-37 6	10.1	10.6	G5	2	..	21440b	54	13173	22.3	-30 28	9.6	10.3	K2	2	..	40325b
5	10440	22.0	-40 22	9.1	9.1	B9	5	..	19343b	55	10791	22.3	-36 24	10.1	11.4	K5	1	..	21440b
6	10688	22.0	-45 19	9.9	9.6	F5	2	..	21842b	56	10792	22.3	-36 58	9.5	10.6	Ko	2	..	21440b
7	10584	22.0	-50 9	9.51	9.6	Ao	5	..	21842b	57	9893	22.3	-52 35	9.0	9.4	B9	4	..	19926b
8	9884	22.0	-52 12	8.2	9.0	K2	3	..	19926b	58	6815	22.3	-58 46	9.0	9.9	G5	3	..	19640b
9	7564	22.0	-55 18	9.1	10.1	Ko	1	..	19640b	59	3507	22.3	-64 16	6.60	6.5	B8	..	..	56,138
10	7724	22.0	-56 22	9.6	10.6	Ko	1	..	19640b	60	2972	22.3	-66 49	9.1	9.6	F8	4	..	42473b
11	6756	22.0	-59 44	8.0	8.3	Fo	8	..	19902b	61	725	22.4	+72 32	8.76	9.18	F5	2	..	37752i
12	5702	22.0	-61 58	8.9	9.8	Ko	4	..	19902b	62	1117	22.4	+65 21	9.2	10.2	Ko	2	..	37746i
13	2747	22.0	-68 13	9.7	9.7	Ao	2	..	42473b	63	1129	22.4	+64 19	8.2	9.2	Ko	4	..	37746i
14	2251	22.0	-70 43	9.1	9.1	Ao	4	0,4	42473b	64	1965	22.4	+51 58	7.24	7.32	A3	6	..	37609i
15	3100	22.1	+19 43	8.7	9.7	Ko	1	..	38771i	65	2287	22.4	+50 41	7.8	8.6	G5	4	..	37609i
16	3175	22.1	+18 39	8.22	8.64	F5	3	..	38771i	66	3524	22.4	+0 43	9.1	9.4	F2	3	..	40289b
17	2943	22.1	+16 12	6.77	7.33	Go	7	..	38771i	67	4243	22.4	-8 9	4.68	4.74	A2	..	2, R	56,93
18	3001	22.1	+15 4	8.99	9.77	G5	1	..	38727i	68	11515	22.4	-26 0	9.8	11.5	K5	1	..	40087b
19	4392	22.1	-9 54	8.4	9.0	Go	5	..	40607b	69	11354	22.4	-26 28	9.6	11.5	K5	1	..	40325b
20	4574	22.1	-17 18	9.2	9.3	A2	3	..	40615b	70	10972	22.4	-35 48	9.2	9.4	A2	5	..	21440b
21	11513	22.1	-25 14	6.85	7.2	A2p	..	2, R	56,138	71	10675	22.4	-41 49	8.6	9.4	Go	5	..	23764b
22	10447	22.1	-39 13	10.3	10.9	F8	1	..	19343b	72	8040	22.4	-57 45	9.8	9.8	Ao	2	..	19640b
23	10442	22.1	-40 12	9.28	9.5	F5	3	..	23764b	73	2255	22.4	-70 56	8.6	9.4	G5	4	..	42473b
24	10444	22.1	-40 18	9.9	10.5	Ao	2	..	23764b	74	1478	22.5	+61 56	5.64	6.42	G5	..	5,8	56,93
25	9887	22.1	-52 55	9.1	9.1	Ao	4	..	19926b	75	3118	22.5	-0 33	9.1	9.2	A2	4	..	40289b
26	6543	22.1	-60 50	9.6	9.6	B9	1	..	19902b	76	4515	22.5	-12 52	8.9	9.4	F8	5	..	40287b
27	3134	22.1	-67 5	8.6	9.4	G5	3	..	42473b	77	12562	22.5	-29 22	9.8	10.8	G5	1	..	40325b
28	1270	22.2	+63 22	9.1	9.7	Go	3	..	37746i	78	13176	22.5	-30 32	9.4	9.8	F2	2	..	17050b
29	1844	22.2	+55 35	6.94	7.44	F8	8	..	38767i	79	10697	22.5	-46 2	5.46	6.5	Bip	..	1,4 R	28,211
30	1845	22.2	+55 26	5.66	5.72	A2	10	..	38767i	80	10594	22.5	-50 14	8.9	10.8	Ao	3	..	21842b
31	2709	22.2	+42 46	7.65	7.79	A5	7	..	37730i	81	10236	22.5	-51 46	11.6	9.6	Ao	3	..	19926b
32	3190	22.2	-1 9	9.5	9.9	F5	2	..	40289b	82	9899	22.5	-52 14	7.3	7.5	B9	10	..	19926b
33	3943	22.2	-3 19	9.2	10.4	K5	1	..	40289b	83	3951	22.5	-63 41	8.8	9.6	G5	1	..	19902b
34	11352	22.2	-26 25	10.5	9.9	Ao	3	..	40325b	84	2575	22.5	-69 39	9.8	10.3	F8	1	..	39343b
35	11733	22.2	-32 26	8.8	9.5	F5	2	..	17050b	85	1217	22.5	-77 8	7.1	7.2	A5	7	..	42633b
36	11019	22.2	-34 21	9.2	10.1	Ko	1	..	17050b	86	623	22.6	+77 47	7.53	8.53	Ko	3	..	37240i
37	10969	22.2	-35 29	8.2	9.7	Ma	3	..	17050b	87	1591	22.6	+61 44	2.89	3.67	G5	..	R	56,93
38	10674	22.2	-41 24	9.1	10.2	K2	2	..	23764b	88	2340	22.6	+47 48	8.8	9.8	Ko	1	..	37609i
39	10693	22.2	-46 3	9.1	8.4	B8	5	..	21842b	89	3179	22.6	+7 52	8.7	9.1	F5	5	..	19235b
40	10711	22.2	-49 23	10.6	9.6	Ao	2	..	21842b	90	3199	22.6	+3 6	6.64	7.82	K5	6	..	17083b
41	10589	22.2	-51 4	9.7	9.0	Ao	4	..	19926b	91	3526	22.6	+0 28	9.1	10.1	Ko	3	..	40289b
42	9890	22.2	-52 49	8.7	8.7	Fo	6	..	19926b	92	4435	22.6	-13 35	9.5	10.7	K5	1	..	40287b
43	8038	22.2	-57 47	10.1	10.1	Ao	1	..	19640b	93	4436	22.6	-13 44	10.2	10.8	Go	1	..	40287b
44	877	22.3	+70 44	7.28	8.28	Ko	4	..	37752i	94	4324	22.6	-15 59	7.11	7.53	F5	8	..	40615b
45	2398	22.3	+48 27	8.7	9.7	Ko	1	..	37609i	95	12567	22.6	-29 55	10.03	10.4	G5	2	..	40325b
46	2404	22.3	+45 37	7.38	8.16	G5	6	0,5	37730i	96	12566	22.6	-30 3	9.66	9.9	Go	3	..	40325b
47	2945	22.3	+16 24	7.6	8.6	Ko	4	..	38771i	97	10975	22.6	-35 14	8.6	10.0	K5	2	..	17050b
48	3237	22.3	+1 36	9.3	10.3	Ko	3	..	17083b	98	10806	22.6	-47 20	10.3	9.6	B8	3	..	20080b
49	4292	22.3	-7 23	5.45	6.80	Ma	..	0,5-	56,93	99	10878	22.6	-48 42	9.0	8.5	B9	4	..	20092b
50	4320	22.3	-10 57	8.8	9.8	Ko	5	..	40607b	100	10596	22.6	-50 55	9.9	9.4	F8	2	..	19926b

THE HENRY DRAPER CATALOGUE.

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16<sup>h</sup> 22<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6819	22.6	-58 35	8.9	9.0	Ao	6	..	19640b	51	259	23.0	-87 24	6.52	7.9	Ko	5	5,10	43414b
2	5360	22.6	-62 7	9.4	9.5	A5	2	..	19902b	52	2288	23.1	+50 32	8.2	9.0	G5	2	..	3760gi
3	1865	22.7	+53 21	8.1	9.2	K2	3	..	38767i	53	2924	23.1	+21 27	8.1	8.5	F5	4	..	3877ri
4	2830	22.7	+29 4	9.4	10.2	G5	2	..	38774i	54	4246	23.1	-8 27	9.8	10.4	Go	3	..	40607b
5	3008	22.7	+24 27	9.1	10.1	Ko	1	..	38770i	55	13185	23.1	-30 34	9.4	9.8	Fo	2	..	17050b
6	3101	22.7	+19 36	8.5	9.3	G5	1	..	38771i	56	11745	23.1	-32 11	9.1	9.5	Ao	4	..	17050b
7	3238	22.7	+1 18	9.3	10.4	K2	2	..	17083b	57	10813	23.1	-37 5	10.8	10.6	Ao	3	..	21440b
8	3119	22.7	-0 50	9.5	10.3	G5	1	..	40289b	58	11322	23.1	-42 21	9.9	9.4	F8	4	..	19343b
9	11517	22.7	-25 58	10.1	9.2	F8	4	..	40087b	59	10909	23.1	-44 58	9.36	9.3	Ao	4	..	21842b
10	10449	22.7	-40 30	8.8	10.3	K2	3	..	23764b	60	6821	23.1	-58 33	9.0	10.7	K2	1	..	19640b
11	7728	22.7	-54 57	9.1	9.8	Ao	2	..	19926b	61	6760	23.1	-59 57	9.8	9.8	Ao	1	..	19902b
12	3318	22.7	-65 39	9.2	9.5	Fo	2	..	39343b	62	6548	23.1	-60 8	9.2	9.2	B8	3	..	19902b
13	2576	22.7	-69 14	9.8	10.3	F8	1	..	39343b	63	3141	23.1	-68 1	9.9	10.0	A2	2	..	42473b
14	1958	22.7	-72 42	7.8	8.9	K2	2	..	42473b	64	1105	23.1	-78 34	8.9	9.5	Go	2	..	42633b
15	3102	22.8	+19 14	8.14	8.64	F8	3	..	38771i	65	484	23.2	+82 20	9.0	9.1	A2	2	3,3	37240i
16	4364	22.8	-22 0	10.0	9.9	A2	4	..	40087b	66	2646	23.2	+27 7	9.2	10.2	Ko	1	..	38770i
17	12137	22.8	-28 49	9.8	10.3	Go	2	..	40325b	67	3180	23.2	+7 34	8.9	10.1	K5	2	..	19235b
18	10451	22.8	-40 53	7.3	7.4	Ao	7	..	43871b	68	4148	23.2	-11 37	10.0	11.2	K5	1	..	40607b
19	10903	22.8	-44 47	10.1	9.9	F8	2	..	21842b	69	4288	23.2	-16 57	9.2	9.2	Ao	3	R	40615b
20	10904	22.8	-45 2	9.81	9.9	Ao	2	..	21842b	70	12571	23.2	-29 15	9.3	11.1	K5	1	..	40325b
21	10790	22.8	-46 56	9.7	9.6	A2	3	..	20080b	71	10793	23.2	-46 57	9.9	9.3	Ao	3	..	20080b
22	7729	22.8	-56 17	8.5	8.6	Bo	6	..	19640b	72	10729	23.2	-49 33	10.1	9.6	A2	2	..	21842b
23	7730	22.8	-56 30	9.6	10.4	G5	1	..	19640b	73	7569	23.2	-55 43	7.8	8.3	B9	8	..	19640b
24	3267	22.9	+20 25	9.4	10.4	Ko	1	..	38771i	74	8046	23.2	-57 50	10.1	10.1	B9	1	..	19640b
25	3107	22.9	+2 32	9.3	10.5	K5	2	..	17083b	75	3121	23.3	-0 9	9.8	10.8	Ko	1	..	40289b
26	4147	22.9	-11 27	9.5	10.3	G5	2	..	40607b	76	3197	23.3	-2 6	9.12	10.30	K5	1	..	40289b
27	4437	22.9	-13 11	6.85	7.63	G5	8	..	40287b	77	4149	23.3	-12 2	9.5	10.1	Go	2	..	40287b
28	12691	22.9	-24 18	7.8	8.3	G5	7	..	40087b	78	11359	23.3	-26 13	1.22	2.57	Ma	..	R	28,211
29	10453	22.9	-40 50	8.1	8.8	B9	7	..	19343b	79	11207	23.3	-33 58	10.3	9.8	F5	1	..	17050b
30	6546	22.9	-60 29	8.7	9.2	F5	3	..	19902b	80	10801	23.3	-36 21	10.8	10.8	G5	2	..	21440b
31	5362	22.9	-62 5	7.2	7.2	B9	10	..	19902b	81	10893	23.3	-48 28	9.5	9.4	B9	4	..	20080b
32	600	23.0	+76 22	6.90	6.98	A3	4	..	37240i	82	10731	23.3	-49 43	9.2	8.8	Ao	5	..	21842b
33	2097	23.0	+51 22	7.29	7.57	Fo	7	5.4	3760gi	83	10608	23.3	-50 44	7.5	7.7	Fo	8	..	19926b
34	2707	23.0	+41 3	6.97	7.97	Ko	6	..	37730i	84	10252	23.3	-52 1	9.0	9.6	Ko	2	..	19926b
35	3103	23.0	+19 45	9.15	10.15	Ko	1	..	38771i	85	8047	23.3	-57 29	9.2	9.3	B8	3	..	19640b
36	4325	23.0	-15 12	9.55	10.73	K5	1	..	40287b	86	6761	23.3	-59 28	9.5	9.5	Ao	2	..	19640b
37	4581	23.0	-17 15	9.2	9.6	F5	4	..	40615b	87	2256	23.3	-70 47	5.57	7.1	Ko	..	2,9	28,211
38	4580	23.0	-17 45	7.09	7.09	Ao	9	..	40615b	88	1480	23.4	+62 49	8.8	9.1	F2	5	..	37746i
39	10960	23.0	-27 9	9.3	9.9	G5	4	..	40325b	89	1677	23.4	+57 21	9.3	9.8	F8	2	..	38767i
40	13181	23.0	-30 44	10.1	10.1	Ko	1	..	40325b	90	2708	23.4	+41 8	9.0	9.6	Go	2	..	37730i
41	11202	23.0	-33 7	7.41	7.7	F5	8	..	17050b	91	2926	23.4	+21 7	8.3	8.9	G	1	..	3877ri
42	11201	23.0	-34 0	10.3	9.8	A2	1	..	17050b	92	2925	23.4	+21 3	8.3	8.9	G	1	..	3877ri
43	10679	23.0	-41 23	8.1	8.5	B9	8	..	19343b	93	2949	23.4	+15 58	7.6	7.6	Ao	4	..	3877ri
44	10811	23.0	-47 56	9.3	9.3	Fo	5	..	20080b	94	3202	23.4	+8 2	9.0	9.4	F5	4	..	19235b
45	10887	23.0	-48 18	9.7	9.6	Ao	4	..	20080b	95	3122	23.4	-0 35	9.0	9.0	Ao	6	..	40289b
46	10886	23.0	-48 31	10.3	9.4	A2	4	..	20080b	96	4322	23.4	-10 7	8.56	8.98	F5	5	..	40607b
47	8029	23.0	-53 19	9.2	9.6	Ao	4	..	19926b	97	4428	23.4	-14 28	8.6	9.2	Go	3	..	40287b
48	6547	23.0	-61 1	10.1	10.1	Ao	1	..	19902b	98	10962	23.4	-27 21	10.5	9.9	B9	4	..	40325b
49	2973	23.0	-66 39	9.3	9.6	F2	4	..	42473b	99	12573	23.4	-29 38	8.2	9.5	K2	3	..	17050b
50	3140	23.0	-67 14	9.5	10.5	Ko	1	..	42473b	100									

148500

16<sup>h</sup> 23<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
		m.	°									m.	°						
1	12574	23.4	-29 50	10.1	9.9	Go	2	..	40325b	51	2408	23.8	+45 11	7.27	7.27	Ao	8	0,9	37609i
2	10816	23.4	-37 33	10.1	11.4	Ko	1	..	21440b	52	3018	23.8	+40 6	8.1	8.2	A3	3	E	37730i
3	10451	23.4	-39 48	9.1	10.9	K2	1	..	19343b	53	2846	23.8	+26 46	8.8	9.6	G5	2	..	38770i
4	10840	23.4	-43 53	7.6	9.6	Ma	3	..	21842b	54	2845	23.8	+26 12	6.68	6.76	A3	8	..	38770i
5	10733	23.4	-50 0	10.1	9.3	Ao	2	..	21842b	55	3086	23.8	+25 25	8.1	8.9	G5	3	..	38770i
6	10255	23.4	-51 26	8.0	8.5	B8	7	..	19926b	56	3008	23.8	+15 40	7.46	8.46	Ko	4	..	38771i
7	6553	23.4	-60 4	9.33	9.6	K5	1	..	19902b	57	3204	23.8	+ 8 25	8.7	9.1	F5	3	..	19235b
8	940	23.5	+66 57	9.1	9.7	G	2	..	37746i	58	3212	23.8	+ 5 19	8.7	9.9	K5	1	..	19235b
9	1676	23.5	+60 32	8.2	8.3	A3	4	..	37746i	59	3198	23.8	- 1 36	9.3	9.4	A3	3	E	37801i
10	2504	23.5	+48 54	9.0	9.5	F8	2	..	37609i	60	4440	23.8	-13 21	7.18	8.25	K2	5	..	40287b
11	3007	23.5	+15 33	7.50	8.00	F8	5	..	38771i	61	4170	23.8	-22 37	10.2	10.2	G5	2	..	40087b
12	3239	23.5	+ 1 48	8.3	9.3	Ko	5	..	37801i	62	12693	23.8	-24 46	7.80	7.9	A2	7	..	40087b
13	3529	23.5	+ 0 52	5.47	6.54	K2	8	..	37801i	63	11363	23.8	-26 22	8.8	8.4	Ao	5	..	40325b
14	4304	23.5	- 5 13	8.85	10.03	K5	1	..	40289b	64	13191	23.8	-30 39	9.4	10.3	K2	1	..	40325b
15	4299	23.5	- 7 55	6.41	6.69	Fo	4	R	41795b	65	11014	23.8	-38 36	9.2	9.7	F5	4	..	19343b
16	4366	23.5	-21 20	8.0	8.8	F5	6	..	40087b	66	10845	23.8	-43 20	10.3	10.2	A2	2	..	19343b
17	11010	23.5	-39 2	9.2	10.6	Go	1	..	19343b	67	10799	23.8	-46 15	7.8	7.9	B3	3	..	20092b
18	10459	23.5	-40 10	10.5	10.5	G5	2	..	23764b	68	3320	23.8	-65 10	9.67	9.2	Ao	3	..	19902b
19	10735	23.5	-49 45	8.3	9.3	K5	2	..	21842b	69	3144	23.8	-68 3	9.7	9.7	Ao	2	..	42473b
20	10610	23.5	-51 1	10.3	9.4	Ao	2	..	19926b	70	786	23.9	+71 2	7.66	8.84	K5	2	..	37752i
21	10256	23.5	-51 41	11.6	9.6	Ao	2	..	19926b	71	3213	23.9	+ 5 1	8.41	9.19	G5	3	..	19235b
22	6823	23.5	-58 24	9.9	9.9	B9	2	..	19640b	72	3188	23.9	+ 4 15	9.5	9.6	A3	2	..	17083b
23	3511	23.5	-64 4	9.0	9.8	G5	1	..	19902b	73	4307	23.9	- 5 14	8.55	8.53	B9	5	..	40289b
24	3319	23.5	-65 43	9.5	9.5	Ao	3	..	39343b	74	4399	23.9	- 9 33	10.4	10.9	F8	2	..	40607b
25	2750	23.5	-68 56	9.4	9.4	Ao	4	..	42473b	75	4441	23.9	-13 35	9.8	10.6	G5	2	..	40287b
26	2034	23.5	-71 6	9.5	10.3	G5	1	..	42473b	76	4585	23.9	-18 1	9.0	9.0	Ao	5	..	40615b
27	687	23.5	-83 3	6.36	8.7	K5	2	3,8	43414b	77	4287	23.9	-18 27	8.2	8.8	Go	7	..	40615b
28	2996	23.6	+39 5	8.04	8.54	F8	4	..	38412i	78	4368	23.9	-21 13	9.2	9.6	Ko	3	..	40087b
29	2928	23.6	+21 53	8.0	8.3	F2	3	..	38771i	79	12694	23.9	-24 56	7.32	7.5	B9	7	..	40087b
30	3203	23.6	+ 3 30	9.0	10.0	Ko	3	..	17083b	80	11015	23.9	-38 8	9.5	10.3	F8	2	..	19343b
31	3530	23.6	+ 0 18	6.64	7.82	K5	6	..	37801i	81	10685	23.9	-41 28	9.5	9.4	Ao	4	..	19343b
32	4151	23.6	-11 48	8.9	8.9	Ao	5	..	40287b	82	10916	23.9	-44 48	10.3	9.6	B8	2	..	21842b
33	12146	23.6	-28 50	9.8	9.8	Go	2	..	40325b	83	10740	23.9	-49 42	9.7	9.6	Ao	3	..	21842b
34	12576	23.6	-29 50	8.8	9.2	Ao	7	..	17050b	84	10744	23.9	-49 57	9.9	9.0	Ao	3	..	21842b
35	13188	23.6	-30 48	8.2	9.9	K2	1	..	17050b	85	10264	23.9	-51 36	11.0	9.4	Ao	1	..	19926b
36	11209	23.6	-33 54	8.1	8.6	Fo	5	..	17050b	86	7736	23.9	-57 1	8.2	8.3	G5	7	..	19640b
37	11011	23.6	-38 10	8.8	9.7	B8	4	..	19343b	87	3955	23.9	-63 37	7.6	8.2	Go	9	..	19902b
38	10912	23.6	-44 35	9.7	9.3	B3	3	..	21842b	88	1106	23.9	-78 22	9.7	9.7	Ao	1	..	42633b
39	10612	23.6	-50 48	9.0	9.3	Ko	2	..	19926b	89	485	24.0	+82 52	7.82	7.90	A3	6	3,6	37813i
40	9920	23.6	-52 19	9.1	9.1	B8	3	..	19926b	90	2709	24.0	+41 28	8.4	8.7	Fo	4	..	37730i
41	7573	23.6	-55 26	9.1	9.5	B9	3	..	19640b	91	3205	24.0	+ 8 38	8.1	9.1	Ko	5	..	19235b
42	333	23.6	-86 11	6.13	6.13	Ao	9	2,10	43414b	92	4324	24.0	-11 0	8.59	9.37	G5	3	..	40287b
43	2400	23.7	+48 11	6.52	7.52	Ko	8	..	37609i	93	4431	24.0	-14 22	8.8	8.9	A2	3	..	40287b
44	3184	23.7	+ 7 24	9.5	9.6	A3	1	..	19235b	94	10967	24.0	-27 41	6.79	7.0	B8	10	..	40325b
45	4430	23.7	-14 51	8.9	9.5	Go	2	..	40287b	95	7737	24.0	-57 0	9.5	9.5	Ao	2	..	19640b
46	10817	23.7	-37 46	7.58	7.9	Bo	6	0,7	14373b	96	6557	24.0	-60 24	8.8	9.0	F2	5	..	19902b
47	11012	23.7	-38 35	10.5	10.9	A2	2	..	21440b	97	5713	24.0	-61 38	8.0	8.3	B9	7	..	19902b
48	10915	23.7	-44 10	10.1	9.3	B9	3	..	21842b	98	2975	24.0	-66 9	9.4	9.5	A3	3	..	42473b
49	7736	23.7	-54 50	8.3	8.7	B8	5	..	19926b	99	2035	24.0	-72 0	8.9	8.9	Ao	4	..	42473b
50	1725	23.8	+59 2	9.1	9.5	F5	2	..	38767i	100	1734	24.0	-73 16	8.3	8.9	Go	3	..	20270b

## THE HENRY DRAPER CATALOGUE.

148600

16<sup>h</sup> 24<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2401	24.1	+48 44	8.7	9.1	F5	3	..	37609i	51	1848	24.5	+55 3	9.6	10.8	K5	1	..	38767i
2	3031	24.1	+16 59	8.9	9.2	F2	1	..	38727i	52	2293	24.5	+50 11	8.8	9.2	F5	3	..	37609i
3	3531	24.1	+ 0 28	8.5	9.1	Go	3	..	37801i	53	3182	24.5	+18 38	7.04	8.04	Ko	7	..	38771i
4	4433	24.1	-14 20	5.75	6.31	Go	10	..	40287b	54	4586	24.5	-17 47	9.2	10.0	G5	2	..	40615b
5	12695	24.1	-24 54	4.87	4.70	B3	..	R	56,93	55	12590	24.5	-29 15	7.58	8.3	A2	7	0,8	40325b
6	11366	24.1	-26 19	9.8	8.7	F8	3	..	40325b	56	10810	24.5	-36 55	9.5	10.3	G5	4	..	21440b
7	10850	24.1	-43 13	10.1	10.1	Ao	2	..	19343b	57	11017	24.5	-38 9	8.5	8.5	Ao	5	0,8	14373b
8	10713	24.1	-46 1	9.1	9.0	Ao	5	..	20080b	58	10460	24.5	-40 0	10.1	10.0	B9	3	..	19343b
9	10903	24.1	-48 31	10.3	9.7	Ao	2	R	20080b	59	10472	24.5	-40 25	8.5	9.7	K5	4	..	19343b
10	10900	24.1	-48 54	8.0	7.8	B5	4	..	20092b	60	10906	24.5	-48 52	11.6	9.6	B9	2	..	20080b
11	8050	24.1	-57 36	9.3	10.4	K2	1	..	19640b	61	7741	24.5	-56 21	9.5	9.5	B8	3	..	19640b
12	6826	24.1	-58 19	8.9	9.0	A2	4	..	19640b	62	7744	24.5	-56 28	9.6	10.4	G5	1	..	19640b
13	6824	24.1	-58 43	8.2	9.0	Ko	5	..	19640b	63	6827	24.5	-58 23	9.0	10.3	K5	1	..	19640b
14	6825	24.1	-58 52	9.0	9.9	B3	2	..	19640b	64	5373	24.5	-62 27	8.8	9.8	Ko	1	..	19902b
15	2409	24.2	+45 37	8.8	9.8	Ko	1	..	37730i	65	1272	24.6	+63 47	9.2	10.0	G5	2	..	37746i
16	2733	24.2	+32 55	6.97	7.97	Ko	6	..	20914i	66	2816	24.6	+30 50	8.8	8.9	A3	3	..	20914i
17	2833	24.2	+29 54	8.71	9.71	Ko	2	..	20914i	67	2834	24.6	+29 18	7.11	7.17	A2	8	..	38770i
18	3087	24.2	+25 44	8.6	9.1	F8	1	..	38770i	68	3191	24.6	+ 4 48	7.90	8.68	G5	4	..	19235b
19	3107	24.2	+19 14	7.18	7.96	G5	5	..	38771i	69	4199	24.6	- 2 30	8.8	9.1	Fo	2	..	40289b
20	3033	24.2	+17 8	8.6	9.6	Ko	1	..	38727i	70	4288	24.6	-18 7	9.3	9.9	Go	3	..	40615b
21	3155	24.2	+13 50	7.64	7.92	Fo	6	..	38727i	71	12152	24.6	-28 7	10.3	10.4	K2	2	..	40325b
22	3185	24.2	+ 7 48	9.1	10.2	K2	2	..	19235b	72	11043	24.6	-34 6	7.04	7.5	G5	7	..	17050b
23	4171	24.2	-22 13	9.5	9.6	G5	3	..	40087b	73	10475	24.6	-40 22	10.1	10.9	K5	1	..	19343b
24	11368	24.2	-26 13	11.0	10.7	A5	1	..	40325b	74	10474	24.6	-40 37	9.5	9.7	Go	4	..	19343b
25	13197	24.2	-30 53	9.8	10.1	G5	1	..	40325b	75	10693	24.6	-41 25	9.5	9.7	G5	4	..	19343b
26	11331	24.2	-42 5	10.1	10.3	A3	2	..	19343b	76	10855	24.6	-43 29	10.3	9.6	Ao	3	..	19343b
27	10920	24.2	-44 42	10.3	9.6	Ao	3	..	21842b	77	9953	24.6	-52 36	8.7	8.7	Ao	6	..	19926b
28	6558	24.2	-60 41	8.3	8.9	F2	5	..	19902b	78	7743	24.6	-56 37	9.7	10.3	Go	1	..	19640b
29	847	24.3	+69 47	8.84	9.62	G5	2	..	37752i	79	5720	24.6	-61 55	6.8	8.7	Ko	..	5,8	56,138
30	2649	24.3	+27 23	9.4	10.4	Ko	1	..	38770i	80	3147	24.6	-67 8	9.5	9.5	Ao	2	..	42473b
31	3214	24.3	+ 5 15	8.7	9.9	K5	2	..	19235b	81	2344	24.7	+47 33	7.46	8.46	Ko	5	..	37609i
32	4327	24.3	-10 54	6.74	6.72	B9	9	..	40287b	82	2938	24.7	+23 7	8.1	9.1	Ko	3	..	38771i
33	4154	24.3	-11 48	8.6	9.8	K5	1	..	40287b	83	3012	24.7	+10 49	7.7	8.7	Ko	3	..	38727i
34	11217	24.3	-33 7	8.8	10.7	K5	1	..	17050b	84	3113	24.7	+ 2 33	8.1	9.1	Ko	3	..	37801i
35	10689	24.3	-41 45	9.1	9.2	A2	6	..	19343b	85	10996	24.7	-35 50	10.1	10.1	Ao	4	..	21440b
36	11332	24.3	-42 57	9.9	10.0	G5	3	..	19343b	86	10463	24.7	-39 59	9.58	10.0	Go	3	..	19343b
37	7739	24.3	-56 51	9.8	9.8	B9	2	..	19640b	87	10464	24.7	-40 2	10.8	..	Pd	2	R	23764b
38	6560	24.3	-60 41	8.1	8.6	Ao	8	..	19902b	88	10695	24.7	-41 36	5.47	6.2	Bip	..	R	56,138
39	5372	24.3	-62 46	9.3	9.3	Ao	2	..	19902b	89	11337	24.7	-43 0	7.5	7.8	A3	4	0,10	43871b
40	2582	24.3	-69 47	9.4	9.4	Ao	4	..	42473b	90	10911	24.7	-48 35	9.2	10.1	K5	2	..	20080b
41	3186	24.4	+ 7 0	9.0	10.1	K2	3	..	19235b	91	10754	24.7	-50 1	7.7	8.2	Ko	6	..	21842b
42	11525	24.4	-25 15	8.4	8.9	F8	4	..	40325b	92	10625	24.7	-50 19	8.4	8.7	B9	6	..	19926b
43	11369	24.4	-26 57	7.8	8.9	K2	4	..	40325b	93	6562	24.7	-60 44	9.0	9.0	Ao	3	..	19902b
44	10995	24.4	-35 53	8.8	9.2	Ao	7	..	21440b	94	5721	24.7	-62 3	9.5	9.5	Ao	3	..	19902b
45	10471	24.4	-40 50	8.8	9.1	F5	7	..	19343b	95	3149	24.7	-67 56	9.1	9.4	F2	3	..	42473b
46	10923	24.4	-44 6	9.3	10.2	K5	1	..	21842b	96	2411	24.8	+45 30	8.8	8.9	A5	3	2,2	37730i
47	10751	24.4	-49 19	9.9	9.3	Ao	4	..	21842b	97	2710	24.8	+41 41	8.2	8.3	A3	3	..	37730i
48	5717	24.4	-61 46	9.2	9.2	B8	3	..	19902b	98	3214	24.8	+ 9 16	8.9	10.0	K2	2	..	19235b
49	2752	24.4	-68 8	10.0	10.0	Ao	1	..	42473b	99	4156	24.8	-11 6	9.5	10.5	Ko	1	..	40287b
50	2038	24.4	-71 41	6.73	6.6	Ao	9	..	42473b	100	4434	24.8	-14 20	8.6	9.4	G5	3	..	40287b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

148700

16<sup>h</sup> 24<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4377	24.8	-21 14	10.0	10.2	Fo	2	..	40087b	51	6564	25.1	-60 4	9.38	9.8	Ko	1	..	19902b
2	11526	24.8	-25 27	9.4	9.8	Go	3	..	40325b	52	3963	25.1	-63 51	9.3	9.7	F5	2	..	19902b
3	11044	24.8	-34 29	4.33	4.16	B3	..	R	28,211	53	3327	25.1	-65 39	8.1	8.6	F8	7	..	42473b
4	11019	24.8	-38 47	7.49	7.6	G5	7	0.9	14373b	54	3325	25.1	-66 1	8.8	9.3	F8	3	..	42473b
5	10465	24.8	-40 0	8.53	10.0	K2	3	..	19343b	55	1640	25.2	+58 27	8.22	9.22	Ko	3	..	38767i
6	11340	24.8	-42 18	9.3	9.7	Ao	3	..	19343b	56	2939	25.2	+23 50	8.7	9.8	K2	1	..	3877oi
7	11339	24.8	-42 31	8.9	9.1	G5	7	..	19343b	57	4250	25.2	-8 15	8.8	8.9	A3	4	..	40607b
8	10926	24.8	-44 40	7.5	9.0	Ma	4	..	20080b	58	4331	25.2	-10 26	9.0	10.1	K2	2	..	40287b
9	10810	24.8	-46 27	9.5	9.0	A3	5	..	20080b	59	4527	25.2	-12 55	8.6	8.6	Ao	7	..	40287b
10	3210	24.9	+7 59	7.22	8.22	Ko	7	..	19235b	60	11379	25.2	-26 19	6.22	7.3	Ko	9	..	40325b
11	3236	24.9	+6 12	6.94	7.36	F5	6	..	9606b	61	12161	25.2	-28 19	10.8	10.4	Go	1	..	40325b
12	3533	24.9	+0 6	8.5	9.0	Mb	4	5.3	40289b	62	10870	25.2	-43 36	9.1	9.3	Go	5	0.3	19343b
13	3127	24.9	-0 35	8.5	9.0	F8	4	..	37801i	63	10634	25.2	-50 46	8.3	8.4	Ko	6	..	19926b
14	4435	24.9	-15 0	9.21	9.63	F5	2	..	40287b	64	2586	25.2	-69 27	9.7	10.0	Fo	1	..	39343b
15	4501	24.9	-20 36	9.3	10.4	K2	1	..	40615b	65	3063	25.3	+14 29	8.5	9.5	Ko	1	..	38727i
16	12594	24.9	-29 47	8.8	9.2	F5	6	..	17050b	66	4251	25.3	-8 53	8.8	9.8	Ko	4	..	40607b
17	12947	24.9	-31 29	10.3	9.9	A	1	..	17050b	67	4332	25.3	-10 35	9.0	9.1	A2	4	..	40287b
18	11341	24.9	-42 34	11.0	10.2	Ao	2	..	19343b	68	12599	25.3	-29 49	10.3	10.8	A2	1	..	40325b
19	10812	24.9	-46 15	9.9	9.0	B9	5	..	20080b	69	12953	25.3	-31 26	9.1	10.1	K	1	..	17050b
20	9965	24.9	-52 9	7.7	7.9	B5	8	..	19926b	70	10838	25.3	-47 20	11.0	10.2	Ao	1	..	20080b
21	7739	24.9	-54 39	8.7	9.5	B8	3	..	19926b	71	10761	25.3	-49 23	10.1	9.0	B9	5	..	21842b
22	7582	24.9	-55 43	8.8	10.3	K2	1	..	19640b	72	10635	25.3	-50 25	9.5	8.7	B9	5	..	19926b
23	7747	24.9	-56 33	8.9	9.3	A5	4	..	19640b	73	10281	25.3	-51 46	10.1	9.6	B9	2	..	19926b
24	3515	24.9	-64 49	7.4	8.4	Ko	8	..	19902b	74	9977	25.3	-52 54	9.3	9.3	Ao	1	..	19926b
25	3152	24.9	-67 5	7.9	8.3	F5	6	..	42473b	75	7755	25.3	-56 9	9.1	10.6	K5	1	..	19640b
26	2040	24.9	-71 5	10.0	10.0	Ao	1	..	42473b	76	6830	25.3	-58 50	9.2	9.2	B9	3	..	19640b
27	941	25.0	+67 16	7.40	8.40	Ko	6	..	37746i	77	6566	25.3	-60 3	8.52	9.2	Ko	3	..	19902b
28	2609	25.0	+43 36	8.4	8.7	Fo	6	..	37730i	78	5378	25.3	-62 3	7.18	7.5	F2	9	..	19902b
29	4329	25.0	-10 13	7.26	7.82	Go	7	..	40287b	79	3965	25.3	-63 47	8.7	9.9	K5	2	..	19902b
30	12949	25.0	-31 35	8.8	9.5	F5	2	..	17050b	80	2587	25.3	-69 23	9.4	9.7	Fo	2	..	39343b
31	11223	25.0	-33 13	8.8	8.7	A2	5	..	17050b	81	549	25.4	+81 11	8.4	9.2	G5	1	..	37240i
32	11000	25.0	-35 53	9.2	10.8	Ko	2	..	21440b	82	1813	25.4	+54 28	9.3	10.3	Ko	1	..	38767i
33	10930	25.0	-44 16	10.1	9.9	Ao	2	..	21842b	83	2714	25.4	+42 6	5.02	6.37	Mb	..	0, R	1902c
34	10723	25.0	-45 54	9.9	9.6	A	4	..	20080b	84	3244	25.4	+1 54	9.1	9.5	F5	3	..	37801i
35	10837	25.0	-47 42	10.1	10.2	B9	2	..	20080b	85	4252	25.4	-8 17	9.2	10.0	G5	4	..	40607b
36	7750	25.0	-56 10	10.3	10.3	B9	1	..	19640b	86	4298	25.4	-16 23	4.40	5.40	Ko	..	R	56,94
37	7749	25.0	-56 27	9.4	10.6	K5	1	..	19640b	87	12165	25.4	-28 11	10.3	11.2	K5	1	..	40325b
38	6829	25.0	-59 1	9.0	9.5	B8	3	..	19640b	88	12601	25.4	-29 39	8.1	9.2	Ko	5	..	17050b
39	5726	25.0	-61 6	9.0	9.9	Ao	1	..	19902b	89	11004	25.4	-35 34	9.7	10.0	G5	2	..	21440b
40	3324	25.0	-65 48	7.4	7.2	B3	..	5.9	56,138	90	10814	25.4	-36 34	10.1	10.3	G5	3	..	21440b
41	4309	25.1	-5 52	8.6	8.9	Fo	6	..	40607b	91	10487	25.4	-40 45	10.3	10.0	Fo	3	..	19343b
42	4444	25.1	-6 13	9.8	11.0	K5	1	..	40607b	92	10485	25.4	-40 58	9.5	9.7	A2	4	..	19343b
43	4305	25.1	-7 17	6.39	6.53	A5	..	0.5 R	56,93	93	11350	25.4	-42 52	11.6	10.3	A	2	..	19343b
44	4525	25.1	-12 54	9.3	9.9	Go	2	..	40287b	94	10732	25.4	-45 3	9.16	9.0	F8	5	..	20080b
45	4437	25.1	-14 34	9.5	10.3	G5	1	..	40287b	95	10733	25.4	-45 38	9.5	10.1	Ao	5	..	20080b
46	4589	25.1	-17 34	9.8	10.4	Go	2	..	40615b	96	10840	25.4	-47 24	11.0	10.5	B8	2	..	20080b
47	11378	25.1	-26 41	11.3	10.4	F8	1	..	40325b	97	7757	25.4	-56 29	9.2	9.8	F8	2	..	19640b
48	11344	25.1	-42 6	9.5	10.6	K5	1	..	19343b	98	2976	25.4	-66 43	9.0	9.8	G5	1	..	42473b
49	11345	25.1	-42 52	11.0	10.0	A2	3	..	19343b	99	3156	25.4	-68 0	9.9	10.0	A2	1	..	39343b
50	7752	25.1	-56 59	9.8	9.8	B8	2	..	19640b	100	1814	25.5	+54 45	8.56	9.56	Ko	4	..	38767i

## THE HENRY DRAPER CATALOGUE.

148800

16<sup>h</sup> 25<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2105	25.5	+51 48	7.47	8.47	Ko	5	..	37609i	51	10932	25.8	-48 13	9.2	8.5	B8	7	..	20080b
2	2822	25.5	+35 50	8.3	9.5	K5	1	..	38412i	52	9995	25.8	-52 59	7.0	7.5	G5	9	..	19926b
3	3953	25.5	-3 28	8.2	8.7	F8	5	..	40289b	53	7760	25.8	-56 25	9.0	9.8	Ao	3	..	19640b
4	3951	25.5	-3 52	9.2	9.7	F8	1	..	40289b	54	3160	25.8	-67 4	9.2	9.8	Go	2	..	39343b
5	4121	25.5	-4 27	9.2	9.8	Go	1	..	40289b	55	606	25.9	+76 40	7.57	8.75	K5	1	..	37240i
6	12602	25.5	-29 25	9.4	9.8	Go	3	..	40325b	56	2934	25.9	+21 42	2.81	3.81	Ko	..	R	2681c
7	12958	25.5	-31 25	9.3	9.2	B9	5	..	17050b	57	3118	25.9	+2 12	3.85	3.85	Ao	..	O, R	2625c
8	10488	25.5	-40 6	10.10	10.5	Ao	2	R	19343b	58	3203	25.9	-1 50	9.5	10.3	G5	2	..	40289b
9	10844	25.5	-47 5	9.3	10.2	K5	1	..	20080b	59	4310	25.9	-7 42	7.8	8.1	F2	6	..	40607b
10	10843	25.5	-47 13	11.6	10.2	B9	1	..	20080b	60	4591	25.9	-17 30	8.2	8.2	B9	7	..	40615b
11	10284	25.5	-51 14	9.3	9.0	Go	5	..	19926b	61	4380	25.9	-21 19	9.5	9.9	Ao	3	..	40087b
12	2977	25.5	-66 54	9.4	9.5	A2	2	..	42473b	62	12173	25.9	-28 16	9.6	10.4	Go	1	..	40325b
13	3157	25.5	-67 7	8.3	8.3	Ao	6	..	42473b	63	12608	25.9	-29 42	9.6	11.1	K5	1	..	40325b
14	1132	25.6	+63 59	9.1	9.9	G5	1	..	37746i	64	10471	25.9	-39 42	11.0	11.1	G	1	R	21440b
15	1815	25.6	+54 26	9.1	10.1	Ko	2	..	38767i	65	10942	25.9	-44 48	9.3	10.0	Ko	2	..	20080b
16	3195	25.6	+4 27	7.45	8.01	Go	5	R	9606b	66	10735	25.9	-45 40	8.7	10.0	K5	3	..	20080b
17	3536	25.6	+0 4	8.9	10.0	K2	2	..	40289b	67	6569	25.9	-61 2	9.1	10.1	G5	1	..	19902b
18	3202	25.6	-2 5	8.77	9.55	G5	4	..	40289b	68	3162	25.9	-67 14	8.4	8.9	F8	3	..	42473b
19	4201	25.6	-2 18	9.8	10.6	G5	2	..	40289b	69	2573	26.0	+28 46	8.7	9.1	F5	3	..	38770i
20	4307	25.6	-7 57	9.3	10.5	K5	1	..	40607b	70	2940	26.0	+23 29	9.1	9.9	G5	1	..	38770i
21	11382	25.6	-26 9	9.1	9.3	F5	4	..	40325b	71	3039	26.0	+16 56	8.7	9.5	G5	1	..	38727i
22	11383	25.6	-26 23	9.4	9.8	Fo	3	..	40325b	72	12174	26.0	-28 53	10.3	10.4	A2	3	..	40325b
23	11228	25.6	-33 15	8.1	8.3	A2	7	..	17050b	73	10357	26.0	-42 13	9.9	10.0	Ao	3	..	19343b
24	11005	25.6	-35 30	10.1	9.7	F8	3	..	21440b	74	10884	26.0	-43 17	10.3	10.3	Ao	2	..	19343b
25	10877	25.6	-43 31	8.0	7.5	A2	4	2,8	43871b	75	10737	26.0	-45 37	8.9	9.7	Ko	3	..	20080b
26	10820	25.6	-46 4	9.2	9.1	B8	6	..	20080b	76	10826	26.0	-46 19	10.3	10.2	Ko	2	..	20080b
27	10821	25.6	-46 43	var.	var.	Ao	2	R	20080b	77	10644	26.0	-51 3	8.6	8.4	B8	7	..	19926b
28	10930	25.6	-48 27	10.6	9.9	A2	2	..	20080b	78	9998	26.0	-52 59	8.2	7.7	Bo	6	..	19926b
29	10285	25.6	-51 7	8.1	8.7	Ko	7	..	19926b	79	3520	26.0	-64 28	7.9	8.9	Ko	5	..	19902b
30	5730	25.6	-61 10	9.8	9.8	Ao	1	..	19902b	80	2106	26.1	+51 39	6.37	7.37	Ko	8	..	37609i
31	3158	25.6	-67 15	8.7	8.7	Ao	5	..	42473b	81	2512	26.1	+49 12	8.2	9.2	Ko	2	..	37609i
32	3011	25.7	+15 19	7.49	7.57	A3	6	..	38771i	82	2823	26.1	+35 25	8.0	9.0	Ko	4	..	38412i
33	4308	25.7	-7 19	8.3	8.3	Ao	7	..	40607b	83	12968	26.1	-31 57	10.3	9.8	A3	1	..	17050b
34	4173	25.7	-22 35	8.0	9.1	G5	6	..	40087b	84	10472	26.1	-39 32	10.1	10.6	Go	1	..	19343b
35	11384	25.7	-26 11	11.0	11.2	K5	1	..	40325b	85	10496	26.1	-40 14	9.5	10.2	B9	2	..	19343b
36	12169	25.7	-28 50	10.5	10.7	Go	1	..	40325b	86	10498	26.1	-40 45	9.7	9.5	B9	4	..	19343b
37	10765	25.7	-49 22	7.7	9.0	K5	4	..	21842b	87	10709	26.1	-41 47	8.9	9.4	B8	5	..	19343b
38	8046	25.7	-53 7	9.3	9.3	B9	4	..	19926b	88	5381	26.1	-62 30	8.8	9.8	Ko	2	..	19902b
39	2978	25.7	-66 55	..	9.0	Ro	4	..	42473b	89	3969	26.1	-63 49	8.8	9.8	Ko	2	..	19902b
40	3211	25.8	+7 58	9.5	9.8	F	1	..	19235b	90	3331	26.1	-65 17	5.38	6.7	Ko	..	O, R	56,138
41	11528	25.8	-25 47	8.1	8.7	F8	6	..	40325b	91	1320	26.1	-75 16	8.03	8.0	Ao	8	..	42633b
42	11386	25.8	-26 26	11.0	10.7	A2	1	..	40325b	92	260	26.1	-87 44	9.1	10.3	K5	3	..	22980b
43	10978	25.8	-27 48	10.1	11.2	K5	1	..	40325b	93	1968	26.2	+51 59	7.72	8.72	Ko	4	..	37609i
44	12605	25.8	-29 50	9.3	9.5	F2	2	..	17050b	94	2406	26.2	+48 26	8.7	9.7	K	1	..	37609i
45	13224	25.8	-30 34	9.6	10.3	Ko	1	..	40325b	95	2610	26.2	+43 14	7.58	7.86	Fo	7	..	37730i
46	12963	25.8	-31 55	9.1	9.5	K2	1	..	17050b	96	2716	26.2	+42 24	9.1	9.7	Go	2	..	37730i
47	11230	25.8	-34 1	8.5	8.6	Go	4	..	17050b	97	3283	26.2	+20 42	5.29	6.07	G5	9	R	38771i
48	10492	25.8	-40 49	7.5	7.9	Ao	9	..	19343b	98	4381	26.2	-21 15	4.57	4.85	Fo	..	R	28,211
49	10825	25.8	-46 6	9.5	9.5	G5	5	..	20080b	99	12178	26.2	-28 49	7.5	7.7	A2	9	..	40325b
50	10846	25.8	-47 28	9.0	9.1	F2	6	..	20080b	100	13229	26.2	-30 50	9.4	9.8	Go	2	..	40325b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

148900

16<sup>h</sup> 26<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11025	26.2	-38 44	9.1	10.0	G5	2	..	19343b	51	10949	26.5	-45 0	9.32	9.1	A0	5	..	20080b
2	10473	26.2	-39 8	8.8	8.9	Go	7	..	19343b	52	10834	26.5	-46 20	7.7	9.1	K5	5	..	20080b
3	10296	26.2	-52 0	8.3	9.3	G5	5	..	19926b	53	10833	26.5	-46 54	10.3	10.0	B9	3	..	20080b
4	8061	26.2	-57 11	9.0	9.6	Go	3	..	19640b	54	10944	26.5	-48 7	9.7	8.7	B8	5	..	20080b
5	8062	26.2	-57 38	9.1	10.3	Ko	2	..	19640b	55	10302	26.5	-51 18	8.9	8.7	B9	7	..	19926b
6	6835	26.2	-59 1	8.8	9.3	A3	4	..	19640b	56	8054	26.5	-53 21	9.5	9.5	A0	3	..	19926b
7	5734	26.2	-61 41	9.0	9.0	B8	4	..	19902b	57	7763	26.5	-56 48	9.6	9.6	A0	2	..	19640b
8	3521	26.2	-64 30	8.2	9.0	G5	3	..	19902b	58	8066	26.5	-57 35	10.3	10.4	A2	2	..	19640b
9	2799	26.3	+34 7	8.2	9.0	G5	3	..	38412i	59	6836	26.5	-58 38	8.5	9.0	F8	6	..	19640b
10	2739	26.3	+33 38	8.1	8.5	F5	3	..	38412i	60	2761	26.5	-68 25	9.3	9.4	A5	4	..	42473b
11	3187	26.3	+18 51	7.74	8.08	F2	5	..	38771i	61	1483	26.6	+62 33	8.2	8.7	F8	4	..	37746i
12	3246	26.3	+1 31	7.9	8.9	Ko	5	..	37801i	62	1679	26.6	+56 58	9.3	10.1	G5	2	..	38767i
13	4405	26.3	-9 40	9.0	10.0	Ko	3	..	40607b	63	2107	26.6	+50 59	7.9	8.3	F5	4	..	37609i
14	11530	26.3	-25 55	10.3	10.7	F8	1	..	40325b	64	2513	26.6	+49 30	8.8	8.9	A2	3	..	37609i
15	12614	26.3	-29 59	9.1	9.5	Ko	4	R	17050b	65	2821	26.6	+30 48	8.6	9.6	Ko	2	..	20914i
16	10828	26.3	-37 31	10.1	10.3	A0	4	..	21440b	66	3195	26.6	+7 52	9.0	9.1	A2	2	..	19235b
17	11026	26.3	-38 16	9.9	10.0	A2	2	..	19343b	67	4406	26.6	-9 28	7.24	7.66	F5	8	..	40607b
18	10889	26.3	-43 18	9.9	10.5	Ko	1	..	19343b	68	4533	26.6	-12 13	7.07	7.07	A0	9	..	40287b
19	10738	26.3	-45 34	8.6	9.7	G5	7	..	20080b	69	4594	26.6	-17 47	9.5	10.0	F8	2	..	40615b
20	10828	26.3	-46 28	9.5	8.0	B9	3	..	20092b	70	4375	26.6	-19 52	9.47	9.7	F5	2	..	40615b
21	10852	26.3	-47 39	10.1	9.5	B9	4	..	20080b	71	12975	26.6	-31 43	9.1	9.5	Ko	2	..	17050b
22	10941	26.3	-48 57	8.0	8.1	A2	4	..	20092b	72	10504	26.6	-40 20	9.5	9.5	A2	4	R	19343b
23	10299	26.3	-51 25	9.7	9.4	A0	3	..	19926b	73	10836	26.6	-46 11	10.6	10.0	Go	3	..	20080b
24	10298	26.3	-51 31	10.3	9.6	A2	2	..	19926b	74	10947	26.6	-48 15	6.98	6.8	A5	7	..	20092b
25	10002	26.3	-52 25	8.0	9.7	A0	2	..	19926b	75	5385	26.6	-62 45	9.5	9.5	B9	3	..	19902b
26	3165	26.3	-67 56	9.1	10.3	K5	1	..	42473b	76	2980	26.6	-66 47	6.95	7.6	A0	..	0.9	56,138
27	2760	26.3	-68 19	9.3	9.7	F5	3	..	42473b	77	1595	26.7	+60 55	8.3	8.9	Go	3	..	37746i
28	2824	26.4	+35 0	7.97	9.04	K2	2	..	38412i	78	1641	26.7	+58 27	8.0	9.0	Ko	4	..	38767i
29	3284	26.4	+20 8	8.8	9.9	K2	2	..	38771i	79	3215	26.7	+8 31	7.15	7.93	G5	4	..	9606b
30	3193	26.4	+7 7	7.9	8.3	F5	4	..	9606b	80	3221	26.7	+5 39	7.6	7.7	A3	5	..	9606b
31	4446	26.4	-6 48	8.1	8.1	A0	4	0.3-	41795b	81	3537	26.7	+0 10	8.5	9.6	K2	3	..	37801i
32	4505	26.4	-20 34	9.5	9.9	G5	2	..	40615b	82	12187	26.7	-28 8	10.8	10.4	Go	1	..	40325b
33	11391	26.4	-26 21	9.8	10.3	G5	1	..	40325b	83	12186	26.7	-28 49	10.8	10.7	Ko	1	..	40325b
34	10502	26.4	-40 34	10.1	10.0	A0	2	..	19343b	84	12976	26.7	-31 20	7.95	9.5	K5	4	..	17050b
35	10711	26.4	-41 33	9.1	8.9	B9	6	..	19343b	85	10507	26.7	-40 32	7.5	7.9	F2	8	..	19343b
36	10742	26.4	-45 14	10.1	10.0	F8	2	..	20080b	86	10954	26.7	-44 16	8.7	9.1	A2	6	..	20080b
37	10855	26.4	-47 54	6.89	6.7	Bo	6	..	20092b	87	10858	26.7	-47 24	8.5	8.2	A0	3	..	20092b
38	10004	26.4	-52 24	8.0	9.4	K2	4	..	19926b	88	10859	26.7	-47 52	8.7	10.0	K2	2	..	20080b
39	8065	26.4	-57 14	8.6	9.2	F5	5	..	19640b	89	10946	26.7	-48 40	9.3	9.0	Bo	4	..	20080b
40	528	26.4	-84 50	8.0	9.1	K2	4	..	13458b	90	3333	26.7	-65 37	8.5	9.5	Ko	3	..	42473b
41	789	26.5	+71 36	7.16	7.66	F8	6	..	37752i	91	2981	26.7	-66 19	9.4	9.5	A3	3	..	42473b
42	3207	26.5	-1 48	8.5	8.6	A5	3	..	37801i	92	2982	26.7	-66 46	7.7	8.7	Ko	5	..	42473b
43	3206	26.5	-2 3	8.52	8.94	F5	6	..	40289b	93	3169	26.7	-67 13	8.8	8.9	A2	5	..	42473b
44	4159	26.5	-11 54	9.0	10.2	K5	1	..	40287b	94	3168	26.7	-67 44	9.7	10.3	Go	1	..	39343b
45	4303	26.5	-16 52	10.2	10.8	Go	1	..	40615b	95	2800	26.8	+33 59	7.04	8.04	Ko	7	..	38412i
46	4506	26.5	-20 32	8.8	9.3	Ko	4	..	40615b	96	2851	26.8	+26 15	8.3	9.3	Ko	1	..	38770i
47	12182	26.5	-29 2	10.1	10.1	A3	2	..	40325b	97	3019	26.8	+24 12	8.2	8.7	F8	2	..	38770i
48	12616	26.5	-29 27	10.3	11.1	Ko	1	..	40325b	98	3216	26.8	+8 31	9.1	9.9	G5	3	..	9606b
49	13232	26.5	-30 40	8.4	8.9	A0	5	..	17050b	99	4595	26.8	-17 26	9.8	10.4	Go	1	..	40615b
50	11244	26.5	-33 19	7.34	7.3	A0	9	..	17050b	100	4376	26.8	-19 22	9.2	10.2	Ko	2	..	40615b



## THE HENRY DRAPER CATALOGUE.

149000

16<sup>h</sup> 26<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	13237	26.8	-30 12	9.0	9.9	Go	2	..	40325b	51	11373	27.1	-42 32	8.9	8.8	Ao	7	..	19343b
2	10822	26.8	-37 2	7.9	7.9	Fo	8	..	19343b	52	10746	27.1	-45 55	10.1	9.7	Bg	3	..	20080b
3	10955	26.8	-44 33	9.1	9.1	Ao	5	..	20080b	53	10840	27.1	-46 44	11.0	9.7	A3	3	..	20080b
4	10745	26.8	-45 49	9.5	10.0	Ko	2	..	20080b	54	10784	27.1	-49 6	8.5	8.4	G5	7	..	21842b
5	3973	26.8	-64 0	9.5	9.5	Ao	2	..	19902b	55	7767	27.1	-56 33	10.3	10.3	Bg	1	..	19640b
6	3524	26.8	-64 20	8.4	9.5	K2	2	..	19902b	56	3974	27.1	-64 1	7.9	8.4	F8	6	..	19902b
7	1892	26.9	+56 49	8.1	9.1	Ko	4	..	38767i	57	1110	27.1	-78 49	7.4	8.5	K2	4	..	42633b
8	2858	26.9	+31 1	8.7	9.7	Ko	1	..	20914i	58	2762	27.2	+37 45	8.2	8.8	Go	3	..	38412i
9	2983	26.9	+22 25	5.96	7.14	K5	7	0.7	38770i	59	3218	27.2	+9 38	6.67	7.01	F2	7	..	9606b
10	3112	26.9	+19 29	8.7	9.7	Ko	1	..	38771i	60	3540	27.2	+0 25	8.9	9.2	Fo	3	0.3	37801i
11	3041	26.9	+17 43	7.7	8.7	Ko	1	..	38727i	61	11076	27.2	-34 13	7.59	8.1	Fo	6	..	17050b
12	2961	26.9	+16 39	7.5	8.6	K2	4	..	38771i	62	11022	27.2	-35 20	7.77	8.5	G5	5	..	17050b
13	4335	26.9	-15 46	6.91	7.41	F8	9	..	40615b	63	10748	27.2	-45 28	11.0	10.0	A2	2	..	20080b
14	12982	26.9	-31 9	9.1	9.5	F8	3	..	17050b	64	10841	27.2	-46 8	9.9	9.1	F2	6	..	20080b
15	12984	26.9	-31 53	9.3	9.2	B8	5	..	17050b	65	10785	27.2	-49 38	8.4	8.2	B5	7	..	21842b
16	10715	26.9	-41 31	10.5	10.0	A2	3	..	19343b	66	3526	27.2	-64 36	8.2	8.3	A3	8	..	42473b
17	11368	26.9	-42 40	9.1	9.2	G5	5	..	19343b	67	2852	27.3	+26 4	8.0	9.0	Ko	4	..	38770i
18	10951	26.9	-48 13	10.1	9.6	Ao	4	..	20080b	68	4451	27.3	-6 14	9.8	10.8	Ko	2	..	40607b
19	10778	26.9	-49 33	7.2	7.8	B3	7	..	21842b	69	11396	27.3	-26 53	11.3	10.3	A2	2	..	40325b
20	7595	26.9	-55 34	8.8	9.2	A2	4	..	19926b	70	12991	27.3	-31 4	8.1	8.0	Ao	8	..	17050b
21	8069	26.9	-57 8	7.2	8.1	Ko	8	..	19640b	71	11251	27.3	-33 8	10.1	9.9	G5	1	..	17050b
22	2265	26.9	-70 40	9.2	10.6	Mb	1	..	39343b	72	10828	27.3	-36 12	10.1	10.9	G5	2	..	21440b
23	529	26.9	-84 8	9.0	9.4	F5	3	..	43458b	73	10827	27.3	-36 38	10.5	11.2	Go	2	..	21440b
24	873	27.0	+68 11	9.1	9.9	G5	1	..	37752i	74	10721	27.3	-41 42	10.1	10.3	G5	1	..	19343b
25	2715	27.0	+40 57	7.84	8.40	Go	5	..	37730i	75	10844	27.3	-46 19	9.1	9.7	K2	2	..	20080b
26	2787	27.0	+38 34	8.05	8.61	Go	3	..	38412i	76	10843	27.3	-46 47	7.6	7.4	B3	5	..	20092b
27	3042	27.0	+17 25	8.5	8.6	A3	1	..	38727i	77	10790	27.3	-49 11	7.4	7.8	B8	8	..	21842b
28	3031	27.0	+12 38	8.6	9.2	G	1	..	38727i	78	6837	27.3	-58 38	9.6	9.6	Bg	3	..	19640b
29	3213	27.0	+3 34	7.9	8.0	A2	6	..	37801i	79	3335	27.3	-65 22	7.7	8.3	Go	7	..	42473b
30	4124	27.0	-4 17	9.0	9.5	F8	2	..	40289b	80	814	27.3	-80 36	9.1	9.1	Ao	4	..	43458b
31	4162	27.0	-11 44	8.8	9.9	K2	3	..	40287b	81	2514	27.4	+49 10	6.22	6.22	Ao	9	..	37609i
32	4509	27.0	-20 7	9.63	9.6	Ao	3	..	40615b	82	2611	27.4	+43 46	8.2	9.0	G5	6	..	37730i
33	12700	27.0	-24 55	9.55	9.9	Go	3	..	40087b	83	2788	27.4	+38 17	8.00	8.42	F5	4	..	38412i
34	12194	27.0	-28 30	10.5	10.7	A2	2	..	40325b	84	2828	27.4	+35 27	6.47	7.65	K5	7	..	38412i
35	10823	27.0	-36 50	9.1	10.3	Fo	3	..	21440b	85	2801	27.4	+34 32	8.7	9.9	K5	2	..	38412i
36	10832	27.0	-37 10	7.46	7.7	A3	10	..	19343b	86	2854	27.4	+26 39	8.6	9.6	Ko	2	..	38770i
37	10477	27.0	-39 45	9.5	11.0	K2	1	..	21440b	87	12201	27.4	-28 23	11.0	11.0	Ao	2	..	40325b
38	10900	27.0	-43 50	5.15	5.6	Bop	..	R	56,138	88	11804	27.4	-32 6	8.8	10.4	K2	1	..	17050b
39	10012	27.0	-52 29	9.3	9.3	Ao	3	..	19926b	89	10829	27.4	-36 4	9.9	10.3	Ao	4	..	21440b
40	8070	27.0	-57 52	9.0	9.2	Bg	5	..	19640b	90	11040	27.4	-38 10	7.57	7.9	F2	9	..	19343b
41	5387	27.0	-62 19	8.2	9.0	G5	6	..	19902b	91	11039	27.4	-38 14	8.3	9.4	K2	4	..	19343b
42	2983	27.0	-66 46	8.5	9.5	Ko	1	..	42473b	92	10481	27.4	-39 30	10.1	10.6	A2	1	..	19343b
43	2416	27.1	+45 6	8.8	9.4	G	2	..	37730i	93	10513	27.4	-41 2	9.7	10.0	A2	4	..	19343b
44	2859	27.1	+31 10	7.30	7.72	F5	5	..	38770i	94	10845	27.4	-46 14	10.3	9.7	Bg	2	..	20080b
45	3208	27.1	-1 28	8.7	9.3	Go	3	..	40289b	95	10848	27.4	-46 24	10.6	10.2	A	1	..	20080b
46	4450	27.1	-6 58	9.5	9.5	Ao	4	..	40607b	96	10846	27.4	-46 28	11.6	9.1	B8	6	..	20080b
47	4596	27.1	-17 6	9.8	10.8	Ko	1	..	40615b	97	10847	27.4	-46 48	11.0	10.2	A2	2	..	20080b
48	10986	27.1	-27 54	8.2	8.6	Ko	6	..	40325b	98	10864	27.4	-47 46	7.9	7.8	Bg	4	..	20092b
49	12625	27.1	-29 44	9.0	10.1	G5	2	..	40325b	99	10955	27.4	-48 47	9.9	9.6	G5	2	..	20080b
50	11075	27.1	-34 11	8.8	9.7	K5	2	..	17050b	100	8064	27.4	-53 26	7.1	7.7	B5	5	2.9	36341b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

149100

16<sup>h</sup> 27<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	7596	27.4	-55 21	9.0	9.2	Ao	4	..	19926b	51	13000	27.8	-31 4	8.1	8.3	Ao	7	..	17050b
2	3976	27.4	-63 25	8.4	8.4	B <sub>9</sub>	7	..	19902b	52	10831	27.8	-36 30	10.8	12.0	K <sub>5</sub>	1	..	21440b
3	954	27.5	+66 19	9.2	9.7	F <sub>8</sub>	4	..	37746i	53	10514	27.8	-40 8	9.33	9.4	Go	5	..	19343b
4	1274	27.5	+63 12	9.5	10.1	G	2	..	37746i	54	10754	27.8	-45 50	10.3	10.0	F <sub>8</sub>	1	..	20080b
5	2407	27.5	+48 9	7.03	7.53	F <sub>8</sub>	8	..	37609i	55	7761	27.8	-54 4	8.7	9.9	K <sub>5</sub>	2	..	19926b
6	4453	27.5	-6 23	10.2	11.0	G <sub>5</sub>	1	..	40607b	56	3529	27.8	-64 6	8.6	9.8	K <sub>5</sub>	1	..	19902b
7	4317	27.5	-7 52	10.2	11.0	G <sub>5</sub>	2	..	40607b	57	3172	27.8	-67 49	9.1	9.7	Go	3	..	42473b
8	4336	27.5	-10 21	6.76	6.90	A <sub>5</sub>	8	..	40287b	58	609	27.8	-83 32	8.9	9.4	F <sub>8</sub>	2	..	43458b
9	4379	27.5	-20 2	9.8	10.2	Ko	1	..	40615b	59	3025	27.9	+40 41	8.7	9.7	K	1	E	37730i
10	10482	27.5	-39 46	10.1	10.5	Go	1	..	19343b	60	3162	27.9	+13 22	7.9	8.4	F <sub>8</sub>	3	..	38727i
11	10750	27.5	-45 51	11.0	10.2	Ao	1	..	20080b	61	3008	27.9	+11 42	4.92	6.10	K <sub>5</sub>	..	0,8 R	56,94
12	10850	27.5	-46 39	11.0	9.7	A <sub>2</sub>	4	..	20080b	62	3215	27.9	+3 28	9.1	10.1	Ko	2	E	17083b
13	10851	27.5	-47 0	10.3	9.5	Ao	4	..	20080b	63	3131	27.9	-0 47	8.9	9.5	Go	4	..	40289b
14	10019	27.5	-52 11	9.3	9.3	B <sub>9</sub>	3	..	19926b	64	4259	27.9	-8 27	9.5	9.6	A <sub>5</sub>	3	..	40607b
15	7759	27.5	-54 36	9.5	9.5	B <sub>9</sub>	2	..	19926b	65	4546	27.9	-12 21	7.60	8.78	K <sub>5</sub>	4	..	40287b
16	3337	27.5	-65 37	8.4	9.5	K <sub>2</sub>	3	..	42473b	66	4443	27.9	-14 48	8.6	9.8	K <sub>5</sub>	2	..	40615b
17	3171	27.5	-67 25	9.3	10.3	Ko	1	..	39343b	67	4174	27.9	-22 37	8.8	9.0	Go	5	..	40087b
18	1682	27.6	+60 51	8.2	8.8	Go	4	..	37746i	68	11400	27.9	-26 17	9.6	9.8	B <sub>9</sub>	4	..	40325b
19	2408	27.6	+48 0	8.6	9.0	F <sub>5</sub>	3	..	37609i	69	11401	27.9	-26 28	9.6	9.8	Go	3	..	40325b
20	2944	27.6	+23 26	9.4	9.9	F <sub>8</sub>	1	..	38770i	70	12638	27.9	-29 37	8.8	9.2	F <sub>5</sub>	7	..	17050b
21	3223	27.6	+5 44	5.56	5.51	B <sub>8</sub>	9	R	9606b	71	11259	27.9	-33 4	8.8	9.5	G <sub>5</sub>	3	..	17050b
22	3542	27.6	+0 51	9.79	10.35	G	1	..	37801i	72	11045	27.9	-38 23	10.1	10.0	A <sub>5</sub>	3	..	19343b
23	4543	27.6	-12 35	7.58	8.36	G <sub>5</sub>	6	..	40287b	73	11383	27.9	-42 29	10.3	9.7	Ao	2	..	19343b
24	10483	27.6	-39 41	8.8	9.4	F <sub>8</sub>	5	..	19343b	74	10964	27.9	-45 2	6.42	7.2	Ko	9	..	20080b
25	10724	27.6	-41 17	9.5	9.7	B <sub>5</sub>	4	..	19343b	75	3530	27.9	-64 27	8.2	8.3	A <sub>2</sub>	7	..	42473b
26	10752	27.6	-45 13	10.6	10.5	Ko	1	..	20080b	76	2516	28.0	+49 25	9.0	9.5	F <sub>8</sub>	3	..	37609i
27	10855	27.6	-46 53	11.0	10.3	B <sub>9</sub>	2	..	20080b	77	2936	28.0	+21 19	9.4	10.0	Go	1	..	38771i
28	10319	27.6	-52 2	9.7	8.5	B <sub>8</sub>	4	..	19926b	78	3045	28.0	+17 3	7.5	7.6	A <sub>5</sub>	7	..	38771i
29	7773	27.6	-57 0	9.7	10.3	Go	1	..	19640b	79	3128	28.0	+2 46	9.0	10.0	Ko	3	E	17083b
30	5389	27.6	-62 26	8.8	8.9	A <sub>5</sub>	7	..	19902b	80	3210	28.0	-1 25	9.1	9.9	G <sub>5</sub>	2	..	40289b
31	1681	27.7	+57 26	8.6	9.7	K <sub>2</sub>	3	..	38767i	81	4442	28.0	-15 5	9.46	10.64	K <sub>5</sub>	1	..	40615b
32	2844	27.7	+29 49	8.06	9.06	Ko	2	..	38770i	82	12208	28.0	-28 42	11.0	10.7	Go	2	..	40325b
33	4318	27.7	-7 36	10.0	10.3	F	1	..	40607b	83	12207	28.0	-29 2	9.4	10.4	Ko	3	..	40325b
34	4386	27.7	-21 8	9.5	9.1	A <sub>2</sub>	5	..	40087b	84	10729	28.0	-41 20	10.8	10.3	Ao	3	..	19343b
35	11042	27.7	-38 10	9.5	9.7	Ao	4	..	19343b	85	10730	28.0	-41 29	10.5	10.5	Ao	2	..	19343b
36	10907	27.7	-43 15	9.7	10.3	Ao	3	..	19343b	86	10911	28.0	-43 3	10.1	10.6	G <sub>5</sub>	1	..	19343b
37	10962	27.7	-44 55	9.46	10.5	Ko	1	..	20080b	87	10913	28.0	-43 39	9.1	9.1	Ao	4	..	20080b
38	10022	27.7	-52 51	8.7	9.3	Go	3	..	19926b	88	10872	28.0	-48 2	11.6	10.6	G <sub>5</sub>	1	..	20080b
39	7598	27.7	-55 55	7.8	8.6	G <sub>5</sub>	7	..	19926b	89	10960	28.0	-48 29	9.3	8.7	G <sub>5</sub>	6	..	20080b
40	1682	27.8	+57 53	9.3	10.1	G <sub>5</sub>	1	..	38767i	90	10961	28.0	-49 1	9.9	9.3	Ao	6	..	20080b
41	2742	27.8	+33 44	6.74	6.74	Ao	9	..	38412i	91	10672	28.0	-50 6	9.36	9.6	A	2	..	21842b
42	2855	27.8	+26 15	7.56	8.34	G <sub>5</sub>	5	..	38770i	92	8069	28.0	-53 32	8.9	9.8	K <sub>2</sub>	2	..	19926b
43	3127	27.8	+2 18	8.3	8.9	Go	4	..	37801i	93	8070	28.0	-53 46	8.1	8.6	B <sub>8</sub>	7	..	19926b
44	4455	27.8	-6 33	10.2	11.0	G <sub>5</sub>	1	..	40607b	94	5744	28.0	-62 2	8.1	9.5	F <sub>8</sub>	5	..	19902b
45	4456	27.8	-6 44	8.9	9.2	F <sub>2</sub>	5	..	40607b	95	2271	28.0	-70 9	9.2	10.3	K <sub>2</sub>	1	..	39343b
46	4257	27.8	-8 34	8.8	9.9	K <sub>2</sub>	4	..	40607b	96	2274	28.0	-70 14	9.4	9.7	Fo	1	..	39343b
47	4453	27.8	-13 57	8.8	10.0	K <sub>5</sub>	2	..	40287b	97	1219	28.0	-77 21	7.7	8.0	F <sub>2</sub>	5	..	42633b
48	4511	27.8	-20 20	10.2	10.2	A <sub>2</sub>	2	..	40615b	98	942	28.1	+67 16	6.73	8.08	Ma	6	..	37746i
49	12704	27.8	-24 4	9.0	8.9	G <sub>5</sub>	6	..	40087b	99	3244	28.1	+6 50	7.9	8.7	G <sub>5</sub>	3	..	9606b
50	11538	27.8	-25 35	9.3	10.3	Go	2	..	40325b	100	3961	28.1	-4 3	7.18	7.60	F <sub>5</sub>	5	0,4	41795b

## THE HENRY DRAPER CATALOGUE.

149200

16<sup>h</sup> 28<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	12707	28.1	-24 47	8.8	9.2	Ko	5	..	40087b	51	2829	28.5	+30 20	7.36	8.36	Ko	4	5,4	38774i
2	12641	28.1	-29 30	9.4	9.5	A2	3	..	17050b	52	2949	28.5	+23 22	8.2	9.3	K2	3	..	38770i
3	11813	28.1	-32 38	9.5	9.5	A5	3	..	17050b	53	3211	28.5	-1 46	9.3	9.7	F5	3	..	40289b
4	10967	28.1	-44 41	9.5	8.8	B9	5	..	20080b	54	12218	28.5	-28 9	10.8	10.7	Go	1	..	40325b
5	10761	28.1	-45 39	10.6	9.7	Ao	2	..	20080b	55	11268	28.5	-34 0	8.8	8.0	B8	5	..	17050b
6	10860	28.1	-47 2	10.6	10.0	F8	2	..	20080b	56	11035	28.5	-35 50	8.1	9.2	Ko	7	..	21440b
7	10963	28.1	-48 43	10.6	9.6	A3	3	..	20080b	57	10768	28.5	-45 25	8.5	8.5	B5	7	..	20080b
8	10964	28.1	-49 1	11.0	9.7	A2	3	..	20080b	58	10328	28.5	-51 51	8.0	8.7	Ko	5	..	19926b
9	10674	28.1	-50 9	9.41	9.3	Ao	3	..	21842b	59	8076	28.5	-54 0	8.4	8.9	Ko	5	..	19926b
10	10033	28.1	-52 55	8.5	9.3	Ko	2	..	19926b	60	8075	28.5	-57 31	9.1	10.4	G5	1	..	19918b
11	6582	28.1	-60 46	9.1	9.5	A5	4	..	19902b	61		28.5	-61 21	8.5	8.3	F5	6	R	19902b
12	850	28.2	+68 59	4.98	4.93	B8p	..	R	56,94	62	5746	28.5	-61 21	8.5	8.3	F5	6	R	19902b
13	3094	28.2	+25 3	7.83	7.83	Ao	5	..	38770i	63	2988	28.5	-66 49	8.5	9.5	Ko	2	..	42473b
14	3021	28.2	+24 6	8.7	9.8	K2	1	..	38770i	64	2051	28.5	-72 1	8.0	8.0	Ao	5	..	42473b
15	3245	28.2	+6 45	8.7	9.2	F8	3	..	9606b	65	1123	28.6	+65 4	8.75	9.31	Go	3	..	37746i
16	4444	28.2	-14 16	7.80	8.80	Ko	8	..	40615b	66	2831	28.6	+30 25	8.3	9.3	Ko	2	..	20914i
17	13006	28.2	-31 44	9.6	9.8	Ao	1	..	17050b	67	3134	28.6	-0 59	9.5	10.0	F8	2	..	40289b
18	10843	28.2	-37 41	10.1	11.2	K2	1	..	21440b	68	4128	28.6	-4 51	8.30	9.30	Ko	5	..	40289b
19	6778	28.2	-59 30	9.9	9.9	Ao	2	..	19918b	69	4322	28.6	-7 7	9.8	10.8	Ko	2	..	40607b
20	3175	28.2	-67 33	10.0	10.0	Ao	2	..	39343b	70	4445	28.6	-14 32	8.4	9.5	K2	3	..	40615b
21	..	28.2	-68 20	var.	var.	Md	1	R	39343b	71	11408	28.6	-26 54	8.2	8.4	Ko	6	..	40325b
22	1122	28.3	+65 0	7.75	8.31	Go	6	..	37746i	72	11270	28.6	-33 26	9.7	9.8	G5	1	..	17050b
23	2719	28.3	+42 24	7.63	8.63	Ko	3	..	38773i	73	11099	28.6	-34 11	10.1	8.9	B3	4	..	17050b
24	2946	28.3	+23 27	8.7	9.2	F8	2	..	38770i	74	11037	28.6	-35 31	6.81	6.9	Ao	6	..	5162b
25	2940	28.3	+21 29	8.7	8.8	A3	6	..	38771i	75	10497	28.6	-40 0	9.53	10.3	K5	2	..	19343b
26	3962	28.3	-3 20	9.2	9.3	A5	2	..	40289b	76	10740	28.6	-41 56	9.5	9.7	B8	3	..	19343b
27	4316	28.3	-5 24	9.5	10.5	Ko	1	..	40289b	77	10769	28.6	-45 28	8.6	8.5	B3	7	..	20080b
28	11541	28.3	-25 20	9.8	10.3	Ao	2	..	40325b	78	10864	28.6	-46 16	9.7	9.1	B5	5	..	20080b
29	13008	28.3	-31 5	9.6	9.8	Fo	3	..	40325b	79	10873	28.6	-47 27	11.6	10.3	Fo	2	..	20080b
30	10735	28.3	-42 1	9.2	9.2	A3	4	..	19343b	80	6584	28.6	-60 17	9.8	9.8	Ao	1	..	19902b
31	10916	28.3	-43 26	8.1	8.2	B8	5	..	20080b	81	6585	28.6	-60 33	8.4	9.0	Ko	4	..	19902b
32	10034	28.3	-52 36	9.5	9.6	A2	2	..	19926b	82	882	28.7	+69 57	8.79	9.79	Ko	1	..	37752i
33	7764	28.3	-54 40	9.1	9.3	B8	3	..	19926b	83	2112	28.7	+51 20	8.2	9.2	Ko	2	..	37609i
34	..	28.3	-55 12	var.	var.	Md	..	R	M	84	3023	28.7	+24 28	9.8	10.8	Ko	1	..	38770i
35	5745	28.3	-61 25	9.4	10.4	Ko	1	..	19902b	85	3020	28.7	+15 21	8.5	9.3	G5	2	..	38727i
36	5392	28.3	-62 44	9.5	9.5	B9	1	..	19902b	86	4340	28.7	-10 17	8.7	9.8	K2	3	..	40287b
37	3978	28.3	-64 2	7.1	8.1	Ko	7	..	19902b	87	4339	28.7	-10 28	8.2	9.2	Ko	5	..	40287b
38	3531	28.3	-64 50	8.1	8.7	Go	7	..	42473b	88	4175	28.7	-22 24	9.3	10.4	K5	1	..	40087b
39	2771	28.3	-68 31	6.9	6.9	B9	9	..	42473b	89	11546	28.7	-25 59	10.3	10.7	Go	1	..	40325b
40	2847	28.4	+29 20	8.9	9.9	Ko	1	..	20914i	90	12223	28.7	-28 8	10.3	10.4	Ao	2	..	40325b
41	2581	28.4	+27 55	7.9	9.1	K5	3	..	38770i	91	13017	28.7	-31 41	9.0	8.9	A2	6	..	17050b
42	3133	28.4	-1 3	8.9	9.9	Ko	3	..	40289b	92	11051	28.7	-38 21	9.7	9.4	B8	4	..	19343b
43	4338	28.4	-10 33	8.8	9.9	K2	1	..	40287b	93	10520	28.7	-40 20	9.4	10.9	Ko	1	..	21440b
44	4340	28.4	-15 19	8.6	9.7	K2	2	..	40615b	94	11392	28.7	-42 39	10.3	10.0	A2	3	..	19343b
45	11542	28.4	-25 55	10.5	10.7	F8	1	..	40325b	95	10771	28.7	-45 25	10.6	10.0	Ao	2	..	20080b
46	11266	28.4	-33 50	10.8	9.9	F	1	..	17050b	96	10875	28.7	-47 44	10.6	10.5	A3	1	..	20080b
47	10736	28.4	-41 34	8.8	9.7	Ko	4	..	19343b	97	10970	28.7	-48 5	10.6	9.6	Fo	3	..	20080b
48	10763	28.4	-46 3	8.1	8.8	Ko	6	..	20080b	98	10812	28.7	-49 3	10.3	9.7	Bo	3	..	20080b
49	10678	28.4	-51 2	7.2	7.5	B8	9	..	19926b	99	7607	28.7	-55 43	8.5	9.6	K2	2	..	19926b
50	2596	28.4	-69 57	9.1	9.1	Ao	4	..	42473b	100	2989	28.7	-66 20	9.1	9.2	A2	4	..	42473b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

149300

16<sup>h</sup> 28<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2052	28.7	-71 5	9.2	10.0	G5	2	..	42473b	51	12226	29.0	-28 3	10.8	10.7	A	1	..	40325b
2	1275	28.8	+63 1	8.7	9.1	F5	3	..	37746i	52	12227	29.0	-28 21	10.3	10.4	G5	2	..	40325b
3	2422	28.8	+45 50	5.55	5.55	Ao	10	2,10	37609i	53	10847	29.0	-37 59	9.5	11.4	K2	1	..	21440b
4	2585	28.8	+44 28	7.59	8.01	F5	6	0,5	37609i	54	10523	29.0	-40 7	9.78	10.0	F5	4	..	19343b
5	3025	28.8	+10 35	6.70	6.78	A3	7	..	38727i	55	10524	29.0	-40 26	11.9	10.9	Ao	2	..	21440b
6	3964	28.8	-3 35	8.2	9.2	Ko	4	..	40289b	56	10775	29.0	-45 33	10.3	10.2	Ao	3	..	20080b
7	4343	28.8	-10 10	9.51	9.57	A2	2	..	40287b	57	10870	29.0	-46 38	10.3	9.4	B5	3	..	20080b
8	12712	28.8	-25 1	11.0	9.9	Ao	4	..	40087b	58	10869	29.0	-47 2	11.6	9.7	Ao	4	..	20080b
9	11548	28.8	-25 7	10.5	11.2	G5	1	..	40087b	59	6588	29.0	-60 21	9.2	9.2	F5	2	..	19902b
10	11410	28.8	-26 13	9.3	9.8	F5	3	..	40325b	60	5749	29.0	-61 50	9.5	9.5	B9	2	..	19902b
11	11039	28.8	-35 21	9.2	10.1	K2	1	..	17050b	61	2832	29.1	+35 18	8.7	9.7	Ko	4	..	38412i
12	10499	28.8	-39 39	11.0	11.0	Ao	2	..	21440b	62	2582	29.1	+28 0	8.9	9.3	F5	2	..	38770i
13	10743	28.8	-41 55	8.8	9.4	Bo	4	..	19343b	63	4318	29.1	-5 56	8.0	7.8	Bo	4	3,7	41795b
14	10971	28.8	-44 57	8.72	9.7	Ko	3	..	20080b	64	4601	29.1	-18 6	8.6	9.2	Go	5	..	40615b
15	10876	28.8	-47 47	10.6	10.5	G5	1	..	20080b	65	4384	29.1	-19 28	9.8	10.2	G5	2	..	40615b
16	8079	28.8	-53 43	8.0	9.5	Ko	3	..	19926b	66	4382	29.1	-19 56	9.5	10.4	Ko	1	..	40615b
17	7780	28.8	-56 20	9.2	9.8	G5	3	..	19918b	67	11412	29.1	-26 15	8.6	8.3	B9	7	..	40325b
18	6779	28.8	-59 3	8.8	8.9	Ao	6	0,5	19918b	68	11057	29.1	-38 50	10.1	9.7	A	5	..	19343b
19	5393	28.8	-62 56	8.3	9.3	Ko	3	..	19902b	69	11396	29.1	-42 12	11.0	10.6	Ao	3	..	21440b
20	3341	28.8	-65 27	9.3	9.3	Ao	4	..	42473b	70	10777	29.1	-46 2	8.9	8.5	B5	7	..	20080b
21	2990	28.8	-66 43	8.9	9.0	A3	4	..	42473b	71	10339	29.1	-51 45	9.2	8.7	B8	6	..	19926b
22	2053	28.8	-71 16	9.0	10.0	Ko	1	..	42473b	72	10049	29.1	-52 43	9.2	10.2	Ma	..	..	M
23	1555	28.8	-74 14	8.5	9.5	Ko	2	..	20270b	73	7783	29.1	-56 30	10.4	10.4	Ao	1	..	19918b
24	1221	28.8	-77 18	4.16	5.9	Ko	..	0,9 R	28,211	74	3532	29.1	-64 53	8.3	9.5	K5	1	..	19902b
25	2832	28.9	+30 40	8.8	9.8	Ko	2	..	20914i	75	2777	29.1	-68 20	9.6	9.7	A2	4	..	42473b
26	2951	28.9	+23 20	8.2	9.2	Ko	3	..	38770i	76	1557	29.1	-74 38	8.4	8.9	F8	3	..	11726b
27	3225	28.9	+9 2	7.95	8.01	A2	5	..	9606b	77	1556	29.1	-74 55	8.98	9.6	K2	2	..	20270b
28	3137	28.9	-1 0	9.5	10.0	F8	3	..	40289b	78	359	29.2	+84 2	9.0	9.3	F2	2	..	37813i
29	4308	28.9	-16 43	9.98	10.04	A2	3	..	40615b	79	3030	29.2	+40 18	7.17	7.95	G5	4	..	38773i
30	4381	28.9	-19 44	8.88	9.9	K2	3	..	40615b	80	3097	29.2	+25 54	7.8	8.3	F8	3	..	38770i
31	11411	28.9	-26 5	9.6	10.7	G5	1	..	40325b	81	3167	29.2	+13 37	7.05	8.05	Ko	6	..	38727i
32	12649	28.9	-29 30	10.3	10.7	Fo	1	..	40325b	82	3967	29.2	-3 48	9.0	8.9	B5	6	..	40289b
33	11274	28.9	-33 36	8.1	8.6	A3	4	..	17050b	83	4324	29.2	-7 56	7.82	8.89	K2	6	..	40607b
34	11273	28.9	-33 48	8.8	9.2	A3	3	..	17050b	84	4385	29.2	-19 59	9.8	10.4	G5	1	..	40615b
35	11105	28.9	-34 27	8.5	9.1	Fo	5	..	17050b	85	11413	29.2	-26 19	11.0	10.1	A2	2	..	40325b
36	10840	28.9	-36 54	9.5	9.7	F5	3	..	19343b	86	12652	29.2	-29 19	7.8	9.5	Ko	4	..	17050b
37	10845	28.9	-37 29	9.5	11.4	K5	1	..	41440b	87	13268	29.2	-30 3	9.23	9.2	B8	3	..	17050b
38	11055	28.9	-38 59	8.1	7.9	B9	9	..	19343b	88	10778	29.2	-45 11	8.76	9.1	Ao	5	..	20080b
39	10521	28.9	-40 59	8.5	8.9	B9	7	..	19343b	89	10050	29.2	-52 26	9.6	9.6	Ao	2	..	19926b
40	11393	28.9	-43 0	7.9	7.9	Ao	3	0,8	43871b	90	6842	29.2	-59 0	9.0	9.5	A5	3	3,3	19918b
41	10773	28.9	-45 48	11.0	10.0	B9	1	..	20080b	91	2991	29.2	-66 54	8.3	8.3	Ao	6	..	42473b
42	7765	28.9	-54 46	6.77	8.4	K2	6	..	19926b	92	1971	29.2	-72 6	6.68	7.5	Ko	6	..	42473b
43	8078	28.9	-57 46	9.8	9.8	B9	2	..	19918b	93	1683	29.3	+57 38	8.8	9.6	G5	1	..	38767i
44	3342	28.9	-65 9	8.59	8.7	A5	7	..	42473b	94	2864	29.3	+31 7	7.9	8.2	F2	4	..	38770i
45	2952	29.0	+23 43	8.8	9.1	F2	2	..	38770i	95	4518	29.3	-20 7	9.8	9.9	F8	2	..	40615b
46	3197	29.0	+18 3	7.9	8.3	F5	2	..	38727i	96	10850	29.3	-37 9	8.1	9.2	G5	6	..	19343b
47	3202	29.0	+7 47	8.1	9.1	Ko	3	..	9606b	97	10877	29.3	-46 52	11.0	10.3	Ko	1	..	20080b
48	3255	29.0	+1 38	8.5	8.6	A2	6	..	37801i	98	10886	29.3	-47 7	9.5	10.0	G5	3	..	20080b
49	4317	29.0	-5 51	10.0	11.0	Ko	1	..	40289b	99	10883	29.3	-47 51	11.0	10.2	Fo	2	..	20080b
50	4459	29.0	-6 37	8.4	8.5	A2	7	..	40607b	100	10977	29.3	-48 54	9.3	9.0	Fo	6	..	20080b

## THE HENRY DRAPER CATALOGUE.

149400

16<sup>h</sup> 29<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10051	29.3	-52 10	7.1	8.2	Ma	7	..	19926b	51	10786	29.8	-45 12	11.6	10.0	B8	2	..	2008ob
2	7766	29.3	-54 40	8.9	8.9	B8	4	..	19926b	52	10884	29.8	-46 55	9.7	9.5	B8	4	..	2008ob
3	3098	29.4	+25 4	8.61	9.17	Go	2	..	3877oi	53	10891	29.8	-47 6	9.9	10.6	Ko	1	..	2008ob
4	11399	29.4	-42 39	5.58	6.9	B1	..	..	56,138	54	10890	29.8	-47 52	10.3	9.7	Ao	3	..	2008ob
5	10932	29.4	-43 32	8.0	9.5	K2	3	..	2008ob	55	7769	29.8	-54 39	7.8	8.0	B8	9	..	19926b
6	10979	29.4	-44 47	8.0	9.7	K2	3	..	2008ob	56	7621	29.8	-55 54	9.1	9.6	F8	3	..	19918b
7	8091	29.4	-53 34	8.0	8.6	B8	7	..	19926b	57	3536	29.8	-64 43	8.9	8.9	Ao	5	..	42473b
8	6781	29.4	-59 32	9.8	11.2	Ma	..	..	M	58	1744	29.8	-73 14	8.3	8.3	Ao	4	..	11726b
9	6591	29.4	-60 16	9.1	9.2	Ao	3	..	19902b	59	2835	29.9	+30 17	8.3	9.4	K2	2	..	20914i
10	3534	29.4	-64 24	8.8	8.9	A2	5	..	19902b	60	4131	29.9	- 4 12	9.8	9.8	A	1	..	40289b
11	1278	29.5	+63 47	7.90	8.18	Fo	6	..	37746i	61	4326	29.9	- 7 44	8.9	8.9	Ao	7	..	40607b
12	1645	29.5	+58 3	8.3	9.5	K5	2	..	37802i	62	4264	29.9	- 8 34	10.2	11.0	G5	2	..	40607b
13	3211	29.5	+ 4 6	8.6	9.2	Go	1	..	9606b	63	4413	29.9	- 9 28	8.0	8.5	F8	7	..	40607b
14	3968	29.5	- 4 0	9.8	10.6	G5	1	..	40289b	64	12233	29.9	-28 9	8.4	8.7	B9	6	..	40325b
15	11109	29.5	-34 53	9.57	10.3	Ko	1	..	1705ob	65	13037	29.9	-31 19	9.3	8.7	Ao	5	..	1705ob
16	10982	29.5	-44 57	7.66	7.8	A5	9	..	2008ob	66	11066	29.9	-38 47	11.5	10.3	F8	1	..	19343b
17	8092	29.5	-53 7	9.6	9.6	B9	2	..	19926b	67	10512	29.9	-39 7	9.7	10.2	F8	3	..	19343b
18	6844	29.5	-58 25	7.7	7.9	B8	4	..	36341b	68	10986	29.9	-44 5	10.1	9.7	Ao	2	..	2008ob
19	1871	29.6	+53 12	8.2	8.8	Go	3	..	38767i	69	10789	29.9	-45 32	10.6	10.0	A5	2	..	2008ob
20	2834	29.6	+30 43	6.66	6.94	Fo	8	..	3877oi	70	8085	29.9	-58 1	9.0	8.6	B9	7	..	19918b
21	4389	29.6	-21 40	8.4	9.0	F5	6	..	40087b	71	5399	29.9	-62 31	9.1	9.6	F8	4	..	19902b
22	13032	29.6	-31 23	9.1	9.2	B9	6	..	1705ob	72	3344	29.9	-65 42	8.9	8.9	B9	6	..	42473b
23	11062	29.6	-38 37	9.2	9.4	F5	5	..	19343b	73	11125	30.0	+65 0	9.25	10.25	Ko	2	..	37746i
24	10508	29.6	-39 57	10.3	10.3	A2	2	..	19343b	74	3101	30.0	+25 41	7.8	8.9	K2	2	..	3877oi
25	10535	29.6	-40 6	7.08	7.5	B9	6	..	43871b	75	3229	30.0	+ 8 59	9.1	9.7	Go	1	..	9606b
26	10980	29.6	-48 27	10.3	9.6	B2	3	..	2008ob	76	3214	30.0	- 2 2	9.37	10.15	G5	3	..	40289b
27	R	29.6	-55 28	Neb.	Neb.	Pd	..	..	76,22	77	4320	30.0	- 6 2	9.3	10.5	K5	2	..	40607b
28	851	29.7	+69 9	8.8	9.6	G5	1	..	37752i	78	4327	30.0	- 7 44	9.9	9.9	Ao	4	..	40607b
29	876	29.7	+68 54	8.8	9.4	Go	3	..	37752i	79	13279	30.0	-30 53	8.1	8.9	A2	5	..	1705ob
30	1646	29.7	+57 58	8.2	8.3	A5	4	..	37802i	80	11116	30.0	-34 37	10.1	9.7	Ao	2	..	1705ob
31	2791	29.7	+38 16	var.	var.	A2	2	R	38412i	81	11044	30.0	-35 42	6.98	7.2	F2	3	..	4963b
32	2747	29.7	+36 39	8.5	8.9	F5	3	..	38412i	82	10854	30.0	-38 0	9.1	9.2	Ao	5	..	19343b
33	3229	29.7	+ 8 53	6.90	7.90	Ko	5	..	9606b	83	10887	30.0	-46 41	10.6	9.7	Ao	3	..	2008ob
34	4346	29.7	-16 3	8.4	8.4	Ao	5	..	40615b	84	7791	30.0	-56 15	9.1	10.3	G5	2	..	19918b
35	4295	29.7	-18 28	8.4	9.2	G5	7	..	40615b	85	6594	30.0	-60 47	6.24	6.12	B5	..	0,8	56,138
36	4387	29.7	-20 3	9.18	9.9	Ko	3	..	40615b	86	2601	30.0	-69 41	8.6	8.9	F2	5	..	42473b
37	11557	29.7	-25 5	11.3	10.7	Ao	2	..	40087b	87	2749	30.1	+36 24	8.7	9.2	F8	2	..	38412i
38	11015	29.7	-28 1	2.91	2.67	Bo	..	R	28,211	88	11562	30.1	-25 32	9.8	10.7	K2	1	..	40325b
39	11285	29.7	-33 59	7.77	7.9	A2	7	..	1705ob	89	11016	30.1	-27 16	9.6	10.4	K2	2	..	40325b
40	11063	29.7	-38 12	9.1	10.6	K5	1	..	19343b	90	12238	30.1	-28 57	8.8	10.4	K2	3	..	40325b
41	10784	29.7	-45 39	10.6	10.2	F5	1	..	2008ob	91	11069	30.1	-38 39	10.5	10.0	Go	3	..	19343b
42	10888	29.7	-47 54	10.6	10.0	B9	2	..	2008ob	92	10540	30.1	-40 29	9.7	10.0	Fo	4	..	19343b
43	10350	29.7	-51 59	9.5	8.8	F5	4	..	19926b	93	10754	30.1	-41 41	10.5	10.6	A3	2	..	19343b
44	552	29.8	+80 57	8.8	8.8	Ao	1	..	37240i	94	10889	30.1	-46 24	10.6	9.5	B8	3	..	2008ob
45	12716	29.8	-24 57	9.20	10.1	Ko	4	..	40087b	95	10833	30.1	-49 5	9.2	9.7	Ko	2	..	2008ob
46	11559	29.8	-25 10	9.05	10.3	K2	5	..	40087b	96	10061	30.1	-52 28	9.2	9.6	Ko	1	..	19926b
47	11112	29.8	-35 3	4.30	6.4	Ma	..	R	28,211	97	7772	30.1	-54 37	9.3	9.3	Ao	3	..	19926b
48	11064	29.8	-38 19	9.5	9.5	F5	4	..	19343b	98	7793	30.1	-56 3	9.3	10.1	G5	1	..	19918b
49	10752	29.8	-41 43	10.1	9.7	A3	3	..	19343b	99	8088	30.1	-57 16	8.7	9.5	G5	6	..	19918b
50	10787	29.8	-45 7	8.52	7.9	B5	7	..	2008ob	100	2603	30.1	-69 45	9.7	9.7	A	2	..	42473b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

149500

16<sup>h</sup> 30<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	360	m. 30.2	+84 47	8.33	8.47	A5	4	..	37813i	51	11074	m. 30.4	-38 48	9.7	10.0	Go	3	..	19343b
2	511	30.2	+80 34	7.80	8.58	G5	2	..	37240i	52	10898	30.4	-47 12	10.3	9.5	B9	3	..	20080b
3	945	30.2	+67 34	8.48	9.04	Go	3	..	37746i	53	10365	30.4	-51 15	10.6	9.6	A	1	..	19926b
4	2795	30.2	+38 18	6.59	7.01	F5	8	..	38412i	54	6790	30.4	-59 36	var.	var.	Md	..	R	M
5	3207	30.2	+7 3	8.4	8.5	A3	4	..	9606b	55	3538	30.4	-64 39	9.2	10.3	K2	1	..	19902b
6	3552	30.2	+0 9	9.1	9.5	F5	3	3,3-	11376b	56	2607	30.4	-69 12	8.5	9.1	Go	5	..	42473b
7	4452	30.2	-14 53	9.5	10.3	G5	2	..	40615b	57	2279	30.4	-71 2	10.0	10.0	Ao	1	..	42473b
8	12872	30.2	-23 46	10.3	9.9	Go	2	..	40087b	58	2834	30.5	+35 43	8.2	9.2	Ko	3	..	38412i
9	11421	30.2	-26 14	10.5	10.7	F5	1	..	40325b	59	2746	30.5	+32 13	9.1	10.1	Ko	2	..	20914i
10	11018	30.2	-27 11	11.0	10.7	A2	1	..	40325b	60	2990	30.5	+21 57	8.3	9.3	Ko	3	5,3	38771i
11	13283	30.2	-31 2	var.	var.	R5	..	R	M	61	4265	30.5	-8 33	8.8	9.9	K2	4	..	40607b
12	13042	30.2	-31 9	10.3	9.2	Ao	4	..	17050b	62	11568	30.5	-25 7	9.85	11.0	Ko	1	..	40325b
13	13043	30.2	-31 17	8.8	9.5	Ko	3	..	17050b	63	12242	30.5	-28 46	10.1	9.9	Ao	3	..	40325b
14	11843	30.2	-33 2	8.5	8.9	F2	6	..	17050b	64	10860	30.5	-37 35	10.8	10.9	Ao	2	..	21440b
15	10851	30.2	-36 56	8.1	8.5	Ao	9	..	19343b	65	10518	30.5	-39 55	10.8	10.6	B9	2	..	19343b
16	10542	30.2	-40 53	10.3	10.6	Ao	1	..	21440b	66	10759	30.5	-41 8	9.5	9.4	B8	5	..	19343b
17	10756	30.2	-41 55	11.2	12.6	Mb	1	..	19343b	67	10794	30.5	-46 3	10.3	9.7	Ao	3	..	20080b
18	11408	30.2	-42 7	10.1	9.5	B9	4	..	19343b	68	10901	30.5	-47 6	9.5	9.1	B8	6	..	20080b
19	7794	30.2	-56 44	8.5	9.2	A5	7	..	19918b	69	10993	30.5	-48 49	9.7	9.6	A3	2	..	20080b
20	6789	30.2	-59 29	9.1	9.2	Fo	3	..	19918b	70	10366	30.5	-51 41	9.0	9.3	Ko	4	..	19926b
21	1818	30.3	+54 51	9.26	9.76	F8	2	..	38767i	71	8098	30.5	-53 5	9.8	9.8	Ao	2	..	19926b
22	2305	30.3	+50 20	6.97	7.75	G5	7	..	37609i	72	7796	30.5	-56 55	8.7	9.2	B9	6	..	19918b
23	2723	30.3	+42 5	8.8	9.8	Ko	1	..	38773i	73	6595	30.5	-60 45	8.6	8.9	A3	5	..	19902b
24	2810	30.3	+34 19	8.7	9.5	G5	2	..	38412i	74	816	30.5	-80 10	8.50	9.1	Fo	4	..	43458b
25	3229	30.3	+5 43	8.5	8.5	Ao	3	..	9606b	75	1685	30.6	+60 42	7.98	8.98	Ko	3	..	37746i
26	4296	30.3	-18 22	9.5	10.7	K5	2	..	40615b	76	2189	30.6	+46 44	8.0	8.4	F5	3	..	37609i
27	4523	30.3	-20 31	9.9	10.2	Go	3	..	40087b	77	3235	30.6	+8 51	8.7	9.2	F8	1	..	9606b
28	13285	30.3	-30 23	8.6	9.2	A2	5	..	17050b	78	4464	30.6	-7 0	9.3	10.5	K5	1	..	40607b
29	13045	30.3	-31 16	8.4	9.2	Ko	3	..	17050b	79	4266	30.6	-8 42	9.9	10.9	Ko	1	..	40607b
30	13044	30.3	-31 54	7.8	9.0	Fo	5	..	17050b	80	4390	30.6	-19 57	9.2	9.8	F2	3	..	40615b
31	11844	30.3	-32 15	8.8	9.5	Go	3	..	17050b	81	11021	30.6	-27 55	9.8	10.3	Go	3	..	40325b
32	11047	30.3	-35 56	9.2	10.6	Ko	3	..	21440b	82	12244	30.6	-28 54	8.8	10.4	K2	2	..	40325b
33	11071	30.3	-38 28	7.36	7.4	B9	7	..	43871b	83	13291	30.6	-30 15	9.8	10.1	G5	1	..	40325b
34	10896	30.3	-47 30	8.3	9.4	K5	3	..	20080b	84	13290	30.6	-30 33	10.1	9.9	F2	3	..	40325b
35	10360	30.3	-51 20	9.1	9.3	Ko	3	..	19926b	85	10854	30.6	-36 39	8.8	9.4	Fo	6	..	19343b
36	2783	30.3	-68 7	10.3	10.3	Ao	1	..	39343b	86	11076	30.6	-38 7	9.5	9.4	Ao	4	..	19343b
37	2784	30.3	-68 46	9.1	10.3	K5	1	..	39343b	87	10796	30.6	-45 40	8.6	8.8	B5	7	..	20080b
38	2782	30.3	-68 52	9.1	10.3	K5	1	..	39343b	88	10894	30.6	-46 16	11.6	10.0	B8	2	..	20080b
39	692	30.3	-82 38	9.6	10.6	Ko	1	..	43458b	89	10995	30.6	-48 47	9.5	9.3	B9	3	..	20080b
40	3027	30.4	+24 51	8.81	9.91	Ko	1	..	38770i	90	10702	30.6	-50 11	9.46	9.3	Ao	3	..	21842b
41	4321	30.4	-6 5	8.4	8.5	A3	7	..	40607b	91	7797	30.6	-56 44	8.7	9.8	Go	4	..	19918b
42	4348	30.4	-15 13	9.75	10.93	K5	1	..	40615b	92	5402	30.6	-62 18	9.8	9.8	Ao	2	..	19902b
43	4349	30.4	-15 53	9.5	10.3	G5	2	..	40615b	93	3253	30.7	+6 12	8.6	9.6	Ko	1	..	9606b
44	4524	30.4	-20 54	9.9	9.5	F8	3	..	40087b	94	4455	30.7	-14 26	8.0	9.0	Ko	5	..	40615b
45	11567	30.4	-25 32	10.3	10.4	F5	2	..	40325b	95	4297	30.7	-19 4	8.8	9.2	Ao	5	..	40615b
46	12678	30.4	-29 20	8.6	9.2	Ao	4	..	17050b	96	4391	30.7	-20 5	10.1	10.6	Go	1	..	40615b
47	13048	30.4	-31 43	8.0	8.6	A2	6	..	17050b	97	11427	30.7	-26 52	9.3	9.2	Ao	4	..	40325b
48	11846	30.4	-32 48	8.1	8.7	A2	3	..	17050b	98	11424	30.7	-26 55	9.6	10.4	G5	2	..	40325b
49	11288	30.4	-33 51	8.5	9.5	Ko	3	..	17050b	99	12680	30.7	-29 24	10.1	10.4	G5	2	..	40325b
50	11072	30.4	-38 40	9.5	9.5	Ao	4	..	19343b	100	13050	30.7	-31 56	9.6	9.8	G	1	..	39202b

## THE HENRY DRAPER CATALOGUE.

149600

16<sup>h</sup> 30<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	13052	30.7	-31 59	8.2	9.9	K	1	..	39202b	51	2354	31.0	+47 27	8.4	8.8	F5	4	..	37609i
2	11130	30.7	-34 5	9.9	9.7	A5	2	..	17050b	52	3263	31.0	+1 34	7.9	8.3	F5	7	..	37801i
3	10855	30.7	-36 56	9.5	10.3	Go	3	..	21440b	53	4458	31.0	-14 2	8.9	9.5	Go	3	..	40287b
4	10864	30.7	-37 12	10.8	10.9	Ao	2	..	21440b	54	13057	31.0	-31 19	10.5	10.1	Ao	1	..	40325b
5	10522	30.7	-39 36	10.1	10.3	Ko	2	..	19343b	55	11049	31.0	-35 59	10.8	9.7	F2	6	..	21440b
6	10550	30.7	-40 40	8.8	9.7	Ko	6	..	19343b	56	10908	31.0	-47 34	9.9	10.0	Ko	1	..	20080b
7	10549	30.7	-40 59	9.5	9.4	Ao	7	..	19343b	57	11002	31.0	-48 30	10.1	9.0	Ao	5	..	20080b
8	11417	30.7	-42 44	8.6	10.0	K5	1	..	19343b	58	11004	31.0	-48 36	10.6	9.3	B8	3	..	20080b
9	10797	30.7	-45 57	6.58	8.2	K2	8	..	20080b	59	2798	31.1	+38 11	var.	var.	F5	2	R	38412i
10	10905	30.7	-48 0	9.3	9.1	B8	6	..	20080b	60	2958	31.1	+23 28	8.7	9.0	Fo	2	..	38770i
11	10367	30.7	-51 39	11.6	9.6	B9	2	..	19926b	61	3220	31.1	-2 6	5.87	6.87	Ko	10	R	37801i
12	8091	30.7	-58 3	7.01	7.5	Go	4	0,10	36341b	62	4270	31.1	-8 39	6.77	7.11	F2	9	..	40607b
13	3345	30.7	-65 43	9.0	9.5	F8	4	..	42473b	63	4459	31.1	-13 31	8.0	8.5	F8	7	..	40287b
14	3026	30.8	+15 44	9.0	9.8	G5	1	..	38727i	64	12685	31.1	-29 54	9.58	9.9	G5	4	..	40325b
15	3262	30.8	+1 25	9.3	9.3	Ao	2	..	37801i	65	11856	31.1	-32 41	8.1	9.0	Go	5	..	17050b
16	3143	30.8	-0 12	8.08	8.64	Go	4	..	37801i	66	11296	31.1	-33 3	9.1	9.2	A2	5	..	17050b
17	4417	30.8	-9 33	8.4	9.5	K2	4	..	40607b	67	8093	31.1	-57 31	8.2	8.1	F5	8	..	19918b
18	4350	30.8	-15 55	10.1	10.6	F8	2	..	40615b	68	6598	31.1	-60 57	8.1	7.9	Ao	8	..	19902b
19	4392	30.8	-19 24	9.0	9.8	A5	5	..	40615b	69	3346	31.1	-65 43	7.7	8.7	Ko	6	..	42473b
20	12681	30.8	-29 30	9.8	10.7	Ko	1	..	40325b	70	2995	31.1	-66 51	8.7	9.8	K2	1	..	39343b
21	11850	30.8	-32 56	8.8	9.9	K5	1	..	17050b	71	2789	31.1	-68 6	6.04	5.92	B5	..	R	56,138
22	10551	30.8	-40 50	9.4	10.0	A2	5	..	19343b	72	2866	31.2	+31 18	8.5	9.3	G5	3	..	20914i
23	11418	30.8	-42 48	10.1	10.5	K2	1	..	19343b	73	13060	31.2	-31 12	11.3	9.9	Ao	2	..	40325b
24	10074	30.8	-52 40	9.6	9.6	Ao	1	..	19926b	74	10865	31.2	-36 37	10.1	10.6	F2	3	..	21440b
25	7799	30.8	-56 8	9.9	9.9	Ao	2	..	19918b	75	10869	31.2	-37 21	10.1	10.1	A2	3	..	21440b
26	2993	30.8	-66 25	8.8	9.8	Ko	1	..	42473b	76	10529	31.2	-39 4	10.1	9.7	F2	3	..	19343b
27	2787	30.8	-68 47	9.7	10.3	Go	1	..	39343b	77	10801	31.2	-45 47	10.3	9.4	B8	4	..	20080b
28	2608	30.8	-69 40	9.1	10.3	K5	1	..	39343b	78	10080	31.2	-52 16	7.1	7.9	Ao	8	..	19926b
29	2411	30.9	+48 5	8.8	9.1	Fo	2	..	37609i	79	3347	31.2	-65 14	8.0	8.1	A2	8	..	42473b
30	2724	30.9	+42 39	4.25	4.25	Ao	..	R	2634c	80	2996	31.2	-66 12	8.8	9.8	Ko	1	..	42473b
31	3054	30.9	+17 19	7.30	7.44	A5	3	..	38727i	81	498	31.3	+79 11	5.54	5.62	A3	..	2,9-	56,94
32	3053	30.9	+17 15	6.27	6.27	Ao	6	..	38727i	82	726	31.3	+73 9	8.25	9.25	Ko	1	..	37752i
33	4457	30.9	-13 24	9.2	10.2	Ko	1	..	40287b	83	..	31.3	+72 28	var.	var.	Mc	..	R	55,20
34	4351	30.9	-15 30	10.5	10.6	A2	2	..	40615b	84	2748	31.3	+33 25	8.3	8.8	F8	4	..	38412i
35	4526	30.9	-20 21	9.5	9.2	Ao	6	..	40087b	85	4315	31.3	-16 58	8.48	8.90	F5	8	..	40615b
36	11134	30.9	-34 20	10.3	10.0	Ao	1	..	17050b	86	13306	31.3	-30 45	9.6	10.1	G5	2	..	40325b
37	11079	30.9	-38 17	9.2	10.0	Ko	2	..	19343b	87	11300	31.3	-33 55	10.1	9.8	Ao	2	..	17050b
38	10526	30.9	-39 30	10.1	10.6	G5	1	..	19343b	88	10871	31.3	-37 5	10.1	10.6	A2	4	..	21440b
39	11421	30.9	-42 27	9.3	9.1	F5	6	..	19343b	89	11082	31.3	-38 34	11.0	10.6	Go	2	..	21440b
40	11003	30.9	-44 6	7.7	8.8	Ko	4	..	20080b	90	10531	31.3	-39 12	9.5	9.1	A2	7	..	19343b
41	10897	30.9	-46 44	8.1	7.8	Fo	9	..	20080b	91	10530	31.3	-39 17	9.1	9.5	Ko	3	..	19343b
42	10907	30.9	-47 59	11.6	10.5	Ao	2	..	20080b	92	10803	31.3	-45 22	9.9	9.4	B8	4	..	20080b
43	11001	30.9	-49 1	8.4	8.7	F8	7	..	20080b	93	10712	31.3	-50 37	8.5	9.0	F5	4	..	21842b
44	10839	30.9	-49 33	8.6	8.1	Ao	7	..	21842b	94	10082	31.3	-52 39	8.8	9.7	Mb	..	..	M
45	7629	30.9	-56 1	8.4	8.7	B8	5	..	19918b	95	7778	31.3	-54 30	9.0	9.5	Go	3	..	19926b
46	6794	30.9	-60 1	8.78	8.6	Ao	5	..	19902b	96	7800	31.3	-56 24	8.3	9.8	Ko	2	..	19918b
47	5404	30.9	-62 44	9.3	9.3	Ao	5	..	19902b	97	6798	31.3	-59 7	8.8	9.7	Ao	2	..	19918b
48	2994	30.9	-66 5	8.3	9.3	Ko	5	..	42473b	98	612	31.4	+76 26	8.2	9.0	G5	1	..	37240i
49	2788	30.9	-68 33	8.7	9.7	Ko	4	..	42473b	99	2977	31.4	+16 45	8.4	9.4	Ko	2	..	38727i
50	1598	31.0	+61 2	5.85	5.85	Ao	10	..	37746i	100	4331	31.4	-7 33	9.3	10.1	G5	2	..	40607b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

149700

16<sup>h</sup> 31<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4274	31.4	- 8 41	8.8	9.9	K <sub>2</sub>	4	..	40607b	51	2841	31.7	+30 48	8.8	10.0	K <sub>5</sub>	2	..	20914i
2	4527	31.4	-20 11	10.1	11.2	G	1	R	40615b	52	2851	31.7	+29 22	9.1	9.2	A <sub>3</sub>	1	..	38770i
3	4528	31.4	-20 19	9.5	10.6	K <sub>2</sub>	1	..	40615b	53	2586	31.7	+28 4	8.7	9.2	F <sub>8</sub>	4	..	38770i
4	12250	31.4	-28 25	8.4	10.4	K <sub>0</sub>	3	..	40325b	54	3057	31.7	+17 41	7.5	7.8	F <sub>2</sub>	3	..	38727i
5	11142	31.4	-34 10	9.5	9.4	A <sub>2</sub>	4	..	17050b	55	3140	31.7	+ 2 14	8.9	9.7	G <sub>5</sub>	3	..	37801i
6	11141	31.4	-34 53	10.1	10.3	F <sub>5</sub>	1	..	17050b	56	4213	31.7	- 2 28	8.8	8.8	A <sub>0</sub>	2	..	37801i
7	10875	31.4	-37 56	11.9	11.4	K	1	..	21440b	57	4350	31.7	-10 22	2.70	2.46	B <sub>0</sub>	..	R	2798c
8	11085	31.4	-38 59	10.8	10.3	G <sub>0</sub>	2	..	19343b	58	4175	31.7	-11 9	8.4	9.6	K <sub>5</sub>	2	..	40287b
9	10533	31.4	-39 18	10.3	10.3	A	1	..	19343b	59	4557	31.7	-12 34	8.7	9.9	K <sub>5</sub>	1	..	40287b
10	10557	31.4	-40 4	9.23	10.6	K <sub>5</sub>	2	..	19343b	60	4391	31.7	-21 51	8.2	8.8	G <sub>5</sub>	5	..	40087b
11	10959	31.4	-43 12	6.14	6.4	B <sub>3</sub>	..	0.9	56,138	61	11035	31.7	-27 41	10.5	10.1	A <sub>3</sub>	3	..	40325b
12	11011	31.4	-48 18	10.3	9.9	K <sub>0</sub>	1	..	20080b	62	11866	31.7	-32 28	10.1	9.9	F <sub>8</sub>	1	..	17050b
13	10084	31.4	-52 14	8.7	8.4	B <sub>9</sub>	5	..	19926b	63	11311	31.7	-33 42	9.5	9.5	A <sub>2</sub>	2	..	17050b
14	8110	31.4	-53 10	8.6	9.8	K <sub>0</sub>	2	..	19926b	64	11087	31.7	-38 57	6.95	7.4	A <sub>0</sub> p	7	R	43871b
15	7802	31.4	-56 44	8.7	9.5	K <sub>2</sub>	3	..	19918b	65	10385	31.7	-51 37	7.6	8.7	K <sub>2</sub>	4	..	19926b
16	6854	31.4	-58 7	9.0	9.5	G <sub>0</sub>	3	..	19918b	66	10384	31.7	-51 43	11.0	9.0	B <sub>8</sub>	3	..	19926b
17	1126	31.5	+65 45	9.3	9.9	G <sub>0</sub>	2	..	37746i	67	10093	31.7	-52 13	8.2	9.0	K <sub>2</sub>	2	..	19926b
18	1976	31.5	+52 26	6.80	7.80	K <sub>0</sub>	7	..	37609i	68	8111	31.7	-53 9	8.5	9.2	G <sub>5</sub>	4	..	19926b
19	2115	31.5	+51 10	7.94	8.72	G <sub>5</sub>	3	..	37609i	69	5407	31.7	-62 14	9.7	9.8	A <sub>5</sub>	2	..	19902b
20	2750	31.5	+32 9	8.9	10.1	K <sub>5</sub>	2	..	20914i	70	5406	31.7	-62 21	8.0	7.9	B <sub>5</sub>	7	..	19902b
21	3031	31.5	+24 31	8.1	8.4	F <sub>2</sub>	3	..	38770i	71	2284	31.7	-70 23	7.44	6.9	A <sub>0</sub>	8	..	42473b
22	2991	31.5	+22 20	9.1	10.2	K <sub>2</sub>	1	..	38771i	72	2774	31.8	+37 7	8.33	8.89	G <sub>0</sub>	3	..	38412i
23	3256	31.5	+ 6 51	8.7	9.2	F <sub>8</sub>	2	..	9606b	73	3234	31.8	+ 5 13	8.7	9.7	K <sub>0</sub>	2	E	19012b
24	4323	31.5	- 6 6	8.0	8.8	G <sub>5</sub>	7	..	40607b	74	4214	31.8	- 2 27	9.5	9.5	A <sub>0</sub>	4	..	40289b
25	11033	31.5	-27 57	10.5	10.7	F <sub>8</sub>	1	..	40325b	75	4298	31.8	-18 10	8.8	8.8	A <sub>0</sub>	6	..	40615b
26	10766	31.5	-41 25	8.8	9.4	F <sub>0</sub>	5	..	19343b	76	10871	31.8	-36 32	9.2	10.3	K <sub>0</sub>	3	..	21440b
27	10898	31.5	-46 41	11.6	10.3	A <sub>2</sub>	2	..	20080b	77	10539	31.8	-39 20	9.1	9.2	F <sub>8</sub>	6	..	19343b
28	10913	31.5	-47 58	10.1	9.7	F <sub>8</sub>	3	..	20080b	78	10963	31.8	-43 14	9.3	9.4	A <sub>2</sub>	5	..	20080b
29	10092	31.5	-52 20	8.9	8.7	B <sub>2</sub>	4	..	19926b	79	10964	31.8	-43 57	7.5	7.1	B <sub>3</sub>	7	5,3	20080b
30	7804	31.5	-56 48	var.	var.	B <sub>9</sub>	8	R	36341b	80	10811	31.8	-45 23	9.5	8.8	A <sub>2</sub>	6	..	20080b
31	1819	31.6	+54 7	8.8	9.8	K <sub>0</sub>	2	..	38767i	81	10902	31.8	-46 50	9.2	9.5	K <sub>0</sub>	5	..	20080b
32	3016	31.6	+39 12	8.6	9.4	G <sub>5</sub>	2	..	38773i	82	10915	31.8	-47 6	9.9	9.4	G <sub>5</sub>	4	..	20080b
33	4324	31.6	- 5 23	8.8	9.9	K <sub>2</sub>	2	..	40289b	83	10916	31.8	-47 13	11.6	10.2	A <sub>0</sub>	1	..	20080b
34	6404	31.6	-17 16	9.5	10.3	G <sub>5</sub>	1	..	40615b	84	8098	31.8	-57 6	7.3	9.5	K <sub>5</sub>	3	..	19918b
35	11306	31.6	-33 49	9.5	9.5	G <sub>5</sub>	3	..	17050b	85	3990	31.8	-63 51	8.3	8.3	A <sub>0</sub>	8	..	19902b
36	10879	31.6	-37 12	11.2	10.6	A <sub>0</sub>	3	..	21440b	86	2940	31.9	+20 57	8.5	8.5	A <sub>0</sub>	4	..	38775i
37	10878	31.6	-37 58	11.0	10.8	A <sub>0</sub>	2	..	21440b	87	3221	31.9	+ 4 34	8.6	9.6	K <sub>0</sub>	3	E	19012b
38	10537	31.6	-39 27	8.1	7.9	A <sub>0</sub>	10	..	19343b	88	4316	31.9	-16 11	9.5	10.7	K <sub>5</sub>	1	..	40615b
39	10560	31.6	-40 55	10.1	10.6	A <sub>2</sub>	2	..	19343b	89	4317	31.9	-16 39	8.34	9.34	K <sub>0</sub>	6	..	40615b
40	10767	31.6	-41 11	10.3	10.6	F <sub>5</sub>	2	..	21440b	90	12698	31.9	-29 28	9.0	9.5	F <sub>5</sub>	5	..	40325b
41	10900	31.6	-47 2	11.6	10.5	A <sub>0</sub>	2	..	20080b	91	11868	31.9	-32 8	8.8	9.5	F <sub>2</sub>	3	..	17050b
42	10914	31.6	-47 12	8.7	9.5	K <sub>0</sub>	4	..	20080b	92	10872	31.9	-36 11	8.9	10.8	K <sub>2</sub>	2	..	21440b
43	11015	31.6	-48 28	11.6	9.9	A <sub>2</sub>	2	..	20080b	93	10542	31.9	-39 29	10.3	10.0	F <sub>5</sub>	4	..	19343b
44	11017	31.6	-48 33	8.4	9.4	K <sub>0</sub>	5	..	20080b	94	11429	31.9	-42 12	10.6	10.0	A <sub>2</sub>	2	..	19343b
45	2609	31.6	-69 27	9.2	10.0	G <sub>5</sub>	1	..	42473b	95	11024	31.9	-48 52	8.7	8.8	K <sub>0</sub>	5	..	20080b
46	903	31.6	-79 28	9.3	9.4	A <sub>2</sub>	3	..	43458b	96	10389	31.9	-51 19	10.3	9.0	A <sub>0</sub>	3	..	19926b
47	262	31.6	-87 5	8.6	9.4	G <sub>5</sub>	4	..	22980b	97	10390	31.9	-52 0	10.1	9.0	A <sub>0</sub>	4	..	19926b
48	1281	31.7	+63 2	7.22	7.50	F <sub>0</sub>	7	R	37746i	98	2611	31.9	-69 46	9.9	10.0	A <sub>2</sub>	1	..	42473b
49	2771	31.7	+37 32	var.	var.	Md	1	R	38412i	99	949	32.0	+67 48	8.6	9.6	K <sub>0</sub>	2	..	37746i
50	2772	31.7	+37 13	8.60	9.38	G <sub>5</sub>	2	..	38412i	100	1127	32.0	+64 54	9.40	10.18	G <sub>5</sub>	2	..	37746i



## THE HENRY DRAPER CATALOGUE.

149800

16<sup>h</sup> 32<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	1599	m. 32.0	° +61 26	8.0	8.0	Ao	5	..	37746i	51	11435	m. 32.2	° -42 25	9.9	10.5	K5	1	..	19343b
2	2801	32.0	+37 57	8.60	8.60	Ao	4	..	38412i	52	11022	32.2	-44 27	10.1	10.2	Go	1	..	20080b
3	2843	32.0	+29 56	8.86	9.64	G5	4	..	20914i	53	10908	32.2	-46 27	9.0	8.8	A3	8	..	20080b
4	3015	32.0	+10 55	7.9	8.2	Fo	3	..	38727i	54	10922	32.2	-47 42	10.6	10.2	F5	2	..	20080b
5	3209	32.0	+ 7 19	var.	var.	B9	7	..	9606b	55	10860	32.2	-49 9	9.2	9.0	B3	5	..	21842b
6	3553	32.0	+ 0 27	7.01	8.01	Ko	7	..	37801i	56	8120	32.2	-53 22	8.4	9.2	F5	3	..	19926b
7	4177	32.0	-11 40	7.8	8.1	F2	4	..	40287b	57	7809	32.2	-56 11	9.2	10.4	K2	1	..	19918b
8	11435	32.0	-26 49	10.1	10.3	G5	2	..	40325b	58	5758	32.2	-62 0	9.7	10.2	F8	1	..	19902b
9	11040	32.0	-28 0	9.0	11.0	K5	1	..	40325b	59	2061	32.2	-71 12	9.7	9.7	Ao	2	..	42473b
10	11054	32.0	-35 52	9.4	10.0	A2	5	..	21440b	60	2413	32.3	+48 36	8.38	8.66	Fo	5	..	37609i
11	10769	32.0	-41 7	11.0	11.0	F8	1	..	21440b	61	3036	32.3	+40 19	8.5	9.1	Go	3	..	38773i
12	11020	32.0	-44 9	7.7	9.7	K5	3	..	20080b	62	2754	32.3	+36 16	8.5	8.9	F5	2	..	38412i
13	10391	32.0	-51 47	8.5	8.8	Go	8	..	19926b	63	3237	32.3	+ 5 32	9.1	9.7	Go	3	E	19012b
14	10393	32.0	-51 55	9.9	9.0	B9	3	..	19926b	64	4278	32.3	- 8 32	9.9	11.0	K2	2	..	40607b
15	6861	32.0	-58 11	10.0	10.1	A5	1	..	19918b	65	4357	32.3	-15 44	10.9	11.7	G5	2	..	40615b
16	6862	32.0	-58 53	9.0	8.9	B9	5	..	19918b	66	4182	32.3	-22 41	7.59	7.8	F2	8	..	40087b
17	3543	32.0	-64 44	9.3	9.3	B8	2	..	19902b	67	12739	32.3	-25 1	10.1	10.4	A3	4	..	40087b
18	3189	32.0	-67 56	10.0	10.0	Ao	2	..	39343b	68	11584	32.3	-25 7	9.30	10.7	K2	3	..	40087b
19	1283	32.1	+63 36	8.2	9.2	Ko	3	..	37746i	69	11585	32.3	-25 10	9.70	11.0	K5	1	..	40087b
20	2621	32.1	+43 38	8.9	9.7	G5	1	..	38773i	70	12260	32.3	-28 43	9.0	9.3	A3	5	..	40325b
21	2950	32.1	+21 1	8.8	9.6	G5	2	E	38775i	71	13083	32.3	-31 8	9.3	9.5	Fo	3	..	17050b
22	3029	32.1	+15 42	6.29	6.29	Aop	9	R	38727i	72	11871	32.3	-33 1	10.1	9.5	Go	2	..	17050b
23	3238	32.1	+ 9 19	8.5	9.1	Go	2	..	9606b	73	11156	32.3	-34 8	9.5	9.4	G5	3	..	17050b
24	3142	32.1	+ 2 15	8.6	8.7	A3	5	..	37801i	74	10573	32.3	-40 15	10.8	10.5	A3	3	..	19343b
25	3554	32.1	+ 0 10	8.9	9.9	Ko	1	..	40289b	75	10574	32.3	-40 40	9.4	10.3	F5	4	..	19343b
26	4180	32.1	-22 15	9.3	9.4	G5	3	..	40087b	76	10974	32.3	-43 6	9.9	10.3	F2	3	..	19343b
27	12737	32.1	-24 41	10.1	9.8	B9	6	..	40087b	77	7810	32.3	-56 43	9.0	10.6	Ko	1	..	19918b
28	13078	32.1	-31 48	8.8	8.7	B8	5	..	17050b	78	6865	32.3	-58 24	10.0	10.0	Ao	1	..	19918b
29	11056	32.1	-35 53	9.2	10.0	Ko	4	..	21440b	79	6864	32.3	-58 40	8.0	7.8	Fo	8	..	19918b
30	10876	32.1	-36 39	8.3	9.1	F5	7	..	21440b	80	950	32.4	+66 57	var.	var.	Md	4	R	37746i
31	11021	32.1	-44 41	8.6	8.5	B9	7	..	20080b	81	3086	32.4	+14 40	6.59	6.40	B2	7	..	38727i
32	10815	32.1	-45 41	11.0	9.7	G5	3	..	20080b	82	11587	32.4	-25 48	9.8	10.7	K2	1	..	40325b
33	10905	32.1	-46 43	9.9	9.4	B8	5	..	20080b	83	11439	32.4	-26 47	8.4	8.6	B9	7	..	40325b
34	11033	32.1	-48 39	9.2	8.8	B8	6	..	20080b	84	12262	32.4	-28 21	10.1	10.7	F5	1	..	40325b
35	10859	32.1	-50 1	6.91	8.1	Ko	9	..	21842b	85	13085	32.4	-31 41	8.8	9.5	Ao	4	..	17050b
36	8117	32.1	-53 47	9.0	9.2	B8	4	..	19926b	86	10879	32.4	-37 1	6.10	6.4	Ao	..	..	56,138
37	6603	32.1	-60 15	6.24	7.2	F8	..	0.9	56,138	87	10910	32.4	-46 39	9.7	9.1	Ao	7	..	20080b
38	5409	32.1	-62 31	9.2	9.2	B9	4	..	19902b	88	11037	32.4	-48 59	9.7	8.8	B9	5	..	20080b
39	5410	32.1	-62 41	8.1	9.3	K5	3	..	19902b	89	2725	32.5	+41 6	8.4	9.4	Ko	3	..	38773i
40	3190	32.1	-67 17	8.3	9.5	K5	4	..	42473b	90	2873	32.5	+31 9	7.32	7.82	F8	7	..	20914i
41	2060	32.1	-71 39	9.2	10.0	G5	1	..	42473b	91	3212	32.5	+ 7 25	9.1	10.1	Ko	3	..	19012b
42	1324	32.1	-75 17	8.9	9.2	Fo	3	..	11726b	92	3239	32.5	+ 5 18	9.5	9.6	A3	2	..	9606b
43	1734	32.2	+59 53	7.86	8.86	Ko	3	..	37802i	93	12880	32.5	-23 55	8.2	8.6	Fo	6	..	40087b
44	1821	32.2	+54 10	9.3	10.4	K2	2	..	38767i	94	12704	32.5	-29 41	8.4	8.7	Go	6	..	17050b
45	3148	32.2	- 0 12	8.13	9.20	K2	3	..	37801i	95	10890	32.5	-37 45	8.9	9.7	F8	4	..	19343b
46	4423	32.2	- 9 37	10.3	10.8	F8	2	..	40607b	96	10578	32.5	-40 14	9.5	10.2	F2	4	..	19343b
47	4181	32.2	-23 4	9.5	9.1	Ao	4	..	40087b	97	10976	32.5	-43 40	10.3	9.5	Ao	4	..	19343b
48	13322	32.2	-30 53	9.8	9.9	G5	2	..	40325b	98	11027	32.5	-44 34	9.5	10.0	Ko	2	..	20080b
49	11154	32.2	-34 33	10.8	10.1	A2	1	..	17050b	99	11028	32.5	-44 57	8.26	8.5	B8	8	..	20080b
50	10885	32.2	-37 42	9.5	10.9	Ko	1	..	21440b	100	10912	32.5	-46 54	9.3	9.7	G5	4	..	20080b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

149900

16<sup>h</sup> 32<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
		m.	° ' "									m.	° ' "						
1	10924	32.5	-47 35	7.5	7.9	F5	9	..	2008ob	51	8125	32.8	-53 39	9.0	9.5	B8	3	..	19926b
2	10923	32.5	-47 51	8.3	8.8	G5	7	..	2008ob	52	6803	32.8	-59 45	8.7	9.0	A2	4	..	19902b
3	7639	32.5	-55 31	9.0	9.5	B9	3	..	19926b	53	5760	32.8	-61 53	9.0	9.0	F2	3	..	19902b
4	7638	32.5	-56 3	8.5	8.1	B8	7	..	19918b	54	1979	32.8	-72 15	9.1	9.1	Ao	3	..	42473b
5	693	32.5	-82 19	9.0	10.0	Ko	1	..	43458b	55	1139	32.9	+64 36	8.8	9.8	Ko	4	..	37746i
6	1138	32.6	+64 25	9.3	10.3	K	2	..	37746i	56	2756	32.9	+36 14	7.36	8.71	Ma	5	..	38412i
7	2965	32.6	+23 4	6.89	7.89	Ko	7	..	3877oi	57	2875	32.9	+31 18	9.5	10.7	K5	..	..	M
8	3240	32.6	+5 29	6.68	7.68	Ko	5	..	9606b	58	4393	32.9	-21 16	10.8	11.3	K	1	..	40087b
9	3269	32.6	+1 46	9.1	10.3	K5	2	..	4029ob	59	12745	32.9	-24 58	10.8	11.5	K2	2	..	40087b
10	4327	32.6	-5 52	10.3	11.1	G5	1	..	40607b	60	11050	32.9	-27 47	8.0	8.7	F8	6	..	40325b
11	4467	32.6	-6 20	6.00	6.00	Ao	7	0.8	11019b	61	12267	32.9	-28 42	8.4	9.2	Ko	5	..	40325b
12	4463	32.6	-14 29	8.3	8.6	Fo	6	..	40615b	62	13093	32.9	-31 41	10.8	9.8	F5	2	..	17050b
13	4358	32.6	-15 49	10.5	11.7	K5	1	..	40615b	63	11329	32.9	-33 56	8.1	8.3	A2	8	..	17050b
14	4606	32.6	-18 1	6.68	6.68	Ao	5	..	357ob	64	10895	32.9	-37 4	10.5	10.8	Go	2	..	21440b
15	4400	32.6	-19 20	10.1	10.3	A3	2	..	40615b	65	10782	32.9	-41 8	9.5	9.7	A3	3	..	19343b
16	11875	32.6	-32 56	8.8	9.2	F5	3	..	17050b	66	10827	32.9	-45 52	11.0	10.0	Ao	2	..	2008ob
17	11324	32.6	-33 42	9.5	9.9	Go	1	..	17050b	67	11047	32.9	-48 6	8.1	9.0	Mb	5	..	2008ob
18	10881	32.6	-36 48	9.1	10.0	F5	4	..	21440b	68	8126	32.9	-53 48	8.9	10.1	Ko	1	..	19926b
19	10891	32.6	-37 15	9.9	10.9	Ko	2	..	21440b	69	8127	32.9	-53 59	10.1	10.1	Ao	1	..	19926b
20	11093	32.6	-38 43	9.4	10.5	Ko	2	R	21440b	70	6869	32.9	-58 14	9.1	10.4	K2	1	..	19918b
21	10913	32.6	-46 31	9.7	9.4	F8	5	..	2008ob	71	3349	32.9	-65 13	9.05	9.3	A2	3	..	42473b
22	8122	32.6	-53 56	7.7	8.0	B5	3	0.8R	41738b	72	3194	32.9	-67 14	8.6	9.0	F5	2	..	39343b
23	6605	32.6	-60 23	8.9	8.7	B9	4	..	19902b	73	2659	33.0	+26 58	8.3	8.7	F5	4	..	3877oi
24	5412	32.6	-62 23	9.3	9.3	Ao	2	..	19902b	74	3270	33.0	+1 51	9.1	9.5	F5	3	..	4029ob
25	5411	32.6	-62 25	9.3	9.3	Ao	4	..	19902b	75	4328	33.0	-5 47	9.5	9.6	A3	3	..	40607b
26	3993	32.6	-63 12	8.5	9.5	Ko	1	..	19902b	76	4469	33.0	-6 57	7.64	8.71	K2	5	..	40607b
27	2612	32.6	-69 55	10.2	10.3	A5	1	..	39343b	77	4179	33.0	-11 21	8.7	9.9	K5	1	..	40287b
28	797	32.7	+71 8	8.0	8.4	F5	4	..	37752i	78	4608	33.0	-17 42	9.5	9.6	A3	2	..	40615b
29	1822	32.7	+54 41	9.5	10.5	Ko	2	..	38767i	79	11445	33.0	-26 34	11.3	10.7	A2	1	..	40325b
30	2816	32.7	+34 1	7.24	8.24	Ko	6	..	38412i	80	12708	33.0	-29 43	7.18	7.5	A3	9	..	17050b
31	2864	32.7	+26 43	7.8	8.2	F5	5	..	3877oi	81	13336	33.0	-30 16	7.60	8.0	Go	7	..	17050b
32	2983	32.7	+15 54	7.8	8.9	K2	3	..	38727i	82	11331	33.0	-34 1	8.8	8.3	A2	7	..	17050b
33	3555	32.7	+0 15	8.5	9.3	G5	4	..	37801i	83	10898	33.0	-37 43	9.1	9.4	Ao	5	..	19343b
34	4302	32.7	-18 38	7.08	8.08	Ko	8	..	40615b	84	11101	33.0	-38 34	10.8	10.3	Go	2	..	21440b
35	11162	32.7	-34 41	9.9	9.2	Fo	4	5.3	21440b	85	11102	33.0	-38 52	10.8	10.6	Ao	2	..	21440b
36	11059	32.7	-35 10	10.5	10.9	Ao	1	..	21440b	86	10918	33.0	-46 54	11.0	10.3	Ao	2	..	2008ob
37	10893	32.7	-37 53	11.0	11.4	Go	1	..	21440b	87	11048	33.0	-48 55	9.7	9.3	Fo	5	..	2008ob
38	10552	32.7	-39 24	8.0	8.2	Ao	8	..	19343b	88	10872	33.0	-49 9	9.7	9.3	B8	4	..	21842b
39	10778	32.7	-41 29	9.1	9.7	Ko	3	..	19343b	89	10403	33.0	-51 17	6.53	7.5	A5	9	..	21842b
40	2525	32.8	+49 16	9.0	10.1	K2	1	..	37609i	90	..	33.0	-52 14	Nov.	Nov.	Pc	..	R	76.37
41	3214	32.8	+7 30	9.1	9.7	Go	3	..	19012b	91	10114	33.0	-52 23	8.5	9.6	K2	1	..	19926b
42	3241	32.8	+5 11	8.5	9.6	K2	1	..	9606b	92	7799	33.0	-54 47	9.2	10.1	K5	1	..	19926b
43	4279	32.8	-8 59	9.9	11.1	K5	1	..	40607b	93	5761	33.0	-61 40	9.0	9.9	Ko	1	..	19902b
44	4424	32.8	-10 0	9.56	10.63	K2	1	..	40607b	94	2063	33.0	-71 45	8.7	9.7	Ko	2	..	42473b
45	4183	32.8	-22 58	10.1	10.6	Ko	1	..	40087b	95	3241	33.1	+9 41	8.1	8.2	A2	7	..	9606b
46	12265	32.8	-28 35	10.1	10.3	F8	2	..	40325b	96	4219	33.1	-2 14	8.2	8.8	Go	3	..	37801i
47	11327	32.8	-33 56	9.1	9.2	A2	3	..	17050b	97	4354	33.1	-10 39	9.0	10.0	Ko	3	..	40607b
48	10553	32.8	-39 51	10.3	10.5	G5	1	..	19343b	98	4466	33.1	-13 54	9.2	10.0	G5	2	..	40287b
49	10826	32.8	-45 22	10.3	9.7	Ao	3	..	2008ob	99	4394	33.1	-21 51	8.8	8.9	F8	4	..	40087b
50	10917	32.8	-46 23	10.6	9.7	A2	2	..	2008ob	100	11447	33.1	-26 15	9.3	9.2	Go	4	..	40325b

## THE HENRY DRAPER CATALOGUE.

150000

16<sup>h</sup> 33<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	12269	33.1	-28 17	10.1	10.4	G5	1	..	40325b	51	3224	33.4	-1 53	9.5	9.6	A5	2	..	40289b
2	13099	33.1	-31 31	8.2	8.3	A5	7	..	17050b	52	4282	33.4	-8 25	6.75	7.93	K5	7	..	40607b
3	10899	33.1	-37 33	8.9	10.1	K2	3	..	19343b	53	4358	33.4	-10 15	9.06	10.06	Ko	3	..	40607b
4	10556	33.1	-39 36	7.7	8.0	Ao	10	..	19343b	54	11055	33.4	-27 28	10.8	11.2	Ko	1	..	40325b
5	10784	33.1	-41 21	10.3	9.5	B9	4	..	19343b	55	10892	33.4	-37 0	9.5	11.2	Ao	2	..	21440b
6	10933	33.1	-47 48	9.2	8.8	Ao	7	..	20080b	56	10903	33.4	-37 51	9.1	9.2	B9	5	..	19343b
7	11052	33.1	-48 17	9.9	9.3	Fo	5	..	20080b	57	10902	33.4	-37 55	9.7	10.0	A2	3	..	19343b
8	6804	33.1	-59 8	8.8	9.0	B9	2	..	19918b	58	11107	33.4	-38 23	10.5	10.9	Ko	1	..	21440b
9	5762	33.1	-61 7	9.2	9.3	Ao	3	..	19902b	59	10562	33.4	-39 16	8.8	8.6	B8	6	..	19343b
10	734	33.2	+72 49	6.45	7.45	Ko	7	..	37752i	60	..	33.4	-43 10	Cl.	Cl.	Con.	..	R	M
11	1857	33.2	+55 43	8.6	8.7	A2	3	E	37802i	61	10730	33.4	-50 29	9.5	10.8	Ma	..	..	M
12	3177	33.2	+13 54	6.20	6.54	F2	8	..	38727i	62	8131	33.4	-53 34	9.0	9.5	F8	3	..	19926b
13	3244	33.2	+8 3	8.9	9.7	G5	4	..	19012b	63	5418	33.4	-62 4	9.3	9.3	Ao	4	..	19902b
14	3263	33.2	+5 56	9.1	9.1	Ao	3	..	9606b	64	3545	33.4	-64 43	9.5	9.5	Ao	1	..	19902b
15	3271	33.2	+1 31	9.1	10.1	Ko	2	..	37801i	65	454	33.4	-85 7	9.3	9.4	A2	2	..	13458b
16	4139	33.2	-4 24	8.7	9.8	K2	2	..	40289b	66	3154	33.5	-1 0	8.3	9.1	G5	3	..	37801i
17	4337	33.2	-7 19	8.0	8.3	Fo	7	..	40607b	67	4283	33.5	-8 36	9.5	10.7	K5	2	..	40607b
18	4304	33.2	-18 20	9.5	9.8	F2	4	..	40615b	68	4427	33.5	-10 4	7.91	8.91	Ko	6	..	40607b
19	12272	33.2	-29 2	10.8	11.2	K2	1	..	40325b	69	10893	33.5	-36 17	8.1	8.8	B8	7	..	21440b
20	11062	33.2	-35 3	9.08	9.2	Ko	3	..	17050b	70	10564	33.5	-39 43	7.45	8.3	F2	9	..	19343b
21	10889	33.2	-36 5	10.1	11.2	K2	2	..	21440b	71	10410	33.5	-51 12	7.9	7.9	Ao	9	..	19926b
22	10984	33.2	-43 36	9.2	10.2	K2	2	..	19343b	72	8107	33.5	-57 28	9.2	10.4	G5	1	..	19918b
23	10920	33.2	-46 29	10.1	9.5	B8	3	..	20080b	73	5764	33.5	-61 15	9.9	9.9	Ao	2	..	19902b
24	7643	33.2	-55 6	var.	var.	Mb	3	R	19926b	74	453	33.5	-86 2	8.6	8.7	A2	5	0.7	13458b
25	5414	33.2	-62 22	9.9	9.9	Ao	1	..	19902b	75	361	33.6	+83 55	7.06	7.12	A2	7	0.7	37820i
26	3196	33.2	-67 14	6.32	6.4	Ao	..	..	56,138	76	1284	33.6	+63 28	7.9	9.0	K2	4	..	37746i
27	694	33.2	-83 2	8.9	9.7	G5	3	..	43458b	77	1688	33.6	+60 40	var.	var.	Mb	4	0.2 R	37746i
28	1858	33.3	+55 4	9.0	10.0	Ko	3	..	38761i	78	4329	33.6	-5 55	9.9	10.3	F5	2	..	40607b
29	2359	33.3	+47 1	8.6	9.4	G5	2	..	37609i	79	4563	33.6	-12 8	8.2	8.7	F8	4	..	40287b
30	2194	33.3	+46 49	5.95	6.73	G5	7	5.9 R	38517i	80	12751	33.6	-24 48	9.0	9.5	Ao	5	..	24030b
31	2997	33.3	+22 46	8.9	9.2	F2	3	..	38770i	81	10992	33.6	-43 21	9.0	9.7	Ao	5	..	19343b
32	3215	33.3	+7 2	9.5	10.7	K5	1	..	19012b	82	R	33.6	-45 38	9.0	10.0	Ko	1	..	20080b
33	4470	33.3	-6 59	10.1	11.1	K	1	..	40607b	83	10942	33.6	-47 33	7.4	7.2	B8	10	..	20080b
34	12881	33.3	-23 37	10.1	9.4	A2	3	..	40087b	84	7816	33.6	-56 42	8.10	8.6	B9	8	..	19918b
35	11054	33.3	-27 5	8.1	8.6	B9	6	..	40325b	85	5766	33.6	-61 35	6.2	8.1	G5	10	..	19902b
36	11883	33.3	-32 48	8.6	9.5	G5	3	..	17050b	86	2858	33.7	+29 2	7.7	8.5	G5	4	..	38770i
37	11106	33.3	-38 15	11.0	10.5	Ao	3	..	21440b	87	2660	33.7	+27 35	8.1	8.9	G5	3	..	38770i
38	11039	33.3	-44 22	7.2	8.2	K5	7	..	20080b	88	3155	33.7	-0 40	8.4	9.2	G5	2	..	37801i
39	10830	33.3	-45 45	7.9	8.2	Ko	8	..	20080b	89	4467	33.7	-14 44	8.8	8.9	A3	4	..	40615b
40	10938	33.3	-47 28	8.5	8.0	Ao	8	..	20080b	90	11343	33.7	-33 33	6.60	7.7	Ko	8	..	17050b
41	11056	33.3	-48 33	7.28	7.4	B5	8	..	19926b	91	10906	33.7	-37 27	8.1	8.2	Ao	8	..	19343b
42	6870	33.3	-58 55	8.8	9.6	F8	4	..	19918b	92	10591	33.7	-40 12	10.8	11.4	Go	2	..	21440b
43	5416	33.3	-62 25	9.3	9.3	B9	4	..	19902b	93	10594	33.7	-40 55	7.3	7.9	B8	3	1,10	43871b
44	959	33.4	+66 14	9.6	10.4	G5	3	..	37746i	94	10993	33.7	-43 58	9.7	9.7	Ao	1	..	20080b
45	2195	33.4	+46 49	8.8	9.4	Go	3	..	37609i	95	7806	33.7	-54 41	7.5	8.7	K2	7	..	19926b
46	2726	33.4	+41 34	8.8	9.2	F5	3	..	38773i	96	5421	33.7	-62 10	7.4	8.4	Ko	8	..	19902b
47	2998	33.4	+22 38	8.1	9.5	Ma	4	..	38770i	97	5422	33.7	-62 21	8.02	8.1	K2	9	..	19902b
48	3135	33.4	+19 45	7.85	8.85	Ko	3	..	38775i	98	962	33.8	+66 30	8.65	8.93	Fo	3	..	37746i
49	3242	33.4	+9 20	8.7	9.3	Go	2	..	19012b	99	1140	33.8	+64 8	7.9	8.9	Ko	5	..	37746i
50	3153	33.4	-1 2	6.74	7.74	Ko	7	..	37801i	100	1875	33.8	+53 6	5.64	5.64	Ao	..	..	56,94

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

150100

16<sup>h</sup> 33<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2728	33.8	+41 51	9.5	10.0	F8	1	..	38773i	51	11067	34.0	-35 29	6.70	7.2	B8	6	3,10	5162b
2	2661	33.8	+27 15	7.08	8.43	Ma	4	..	38770i	52	11066	34.0	-35 53	10.1	10.3	Ao	4	..	21440b
3	3246	33.8	+7 58	8.9	9.5	Go	6	..	19012b	53	10897	34.0	-36 29	11.0	11.2	F8	1	..	21440b
4	3148	33.8	+2 46	8.9	10.1	K5	3	..	40290b	54	10997	34.0	-43 12	10.1	10.0	A2	4	..	19343b
5	4184	33.8	-22 7	10.1	10.3	Ko	1	..	40087b	55	10929	34.0	-46 39	9.7	9.5	A	4	..	20080b
6	10908	33.8	-37 35	8.8	8.9	B8	6	..	19343b	56	7650	34.0	-55 22	8.2	9.8	Ko	2	..	19926b
7	10909	33.8	-38 2	10.3	10.0	F5	3	..	19343b	57	3003	34.0	-66 6	9.3	9.3	Ao	3	..	42473b
8	10566	33.8	-39 41	8.1	9.1	G5	7	..	19343b	58	2853	34.1	+30 48	8.8	9.6	G5	2	..	20914i
9	11048	33.8	-44 19	11.0	10.2	Ao	1	R	20080b	59	2859	34.1	+29 41	8.9	9.9	Ko	3	..	20914i
10	11067	33.8	-48 51	10.6	9.9	A3	2	..	20080b	60	3244	34.1	+5 14	8.7	9.8	K2	3	..	19012b
11	7807	33.8	-54 33	7.7	9.2	G5	6	..	19926b	61	4226	34.1	-2 55	7.89	8.89	Ko	3	..	3780ri
12	7817	33.8	-56 49	9.8	9.8	B9	2	..	19918b	62	4325	34.1	-16 25	8.34	9.41	K2	5	..	40615b
13	5767	33.8	-61 21	9.6	10.2	Go	2	..	19902b	63	11349	34.1	-33 42	8.8	9.9	K2	2	..	17050b
14	3998	33.8	-63 26	9.2	10.0	G5	1	..	19902b	64	10899	34.1	-36 57	7.12	7.4	Ao	8	0,7	21440b
15	884	33.9	+70 50	8.8	9.6	G5	2	..	37752i	65	10567	34.1	-39 59	9.38	9.7	Fo	5	..	19343b
16	1650	33.9	+57 58	7.34	7.42	A3	7	..	37802i	66	10600	34.1	-40 43	9.4	9.5	B8	4	..	19343b
17	1876	33.9	+53 8	5.56	5.62	A2	..	R	56,94	67	10930	34.1	-46 11	7.9	8.2	B9	8	..	20080b
18	1876	33.9	+53 8	6.58	6.64	A2	..	R	56,94	68	10890	34.1	-49 27	5.91	6.0	Bip	..	R	56,138
19	2778	33.9	+37 41	7.77	8.95	K5	2	..	38412i	69	6873	34.1	-58 45	8.5	8.5	A5	7	..	19918b
20	2851	33.9	+30 12	9.4	10.4	Ko	1	..	20914i	70	6614	34.1	-60 44	8.2	8.4	Fo	7	..	19902b
21	3033	33.9	+14 58	7.94	8.00	A2	5	..	38727i	71	1286	34.2	+63 10	8.6	9.6	Ko	2	..	37746i
22	3054	33.9	+12 50	7.74	8.30	Go	4	..	38727i	72	1692	34.2	+57 33	9.3	10.3	Ko	2	..	38767i
23	3039	33.9	+10 10	9.1	10.2	K2	1	E	19012b	73	3110	34.2	+25 36	8.8	9.6	G5	1	..	38770i
24	4395	33.9	-21 49	9.2	11.2	Ko	2	..	40087b	74	2954	34.2	+21 43	8.3	9.3	Ko	1	..	38775i
25	11600	33.9	-25 51	10.3	8.1	A3	8	..	40325b	75	2988	34.2	+16 25	8.4	8.8	F5	3	..	38727i
26	12277	33.9	-28 44	7.00	8.1	K5	7	..	40325b	76	3238	34.2	+3 54	8.7	9.5	G5	2	..	19012b
27	13353	33.9	-30 36	9.6	9.8	A2	2	..	17050b	77	4430	34.2	-9 21	6.38	6.80	F5	6	..	11019b
28	13355	33.9	-30 55	9.3	10.1	G5	1	..	40325b	78	11602	34.2	-25 4	9.25	10.7	K5	1	..	40302b
29	11177	33.9	-34 16	10.3	9.7	A5	2	..	17050b	79	11120	34.2	-38 24	9.7	9.4	Ao	4	..	19343b
30	10596	33.9	-40 6	9.33	9.5	F8	4	..	19343b	80	10794	34.2	-41 29	10.3	10.6	F8	2	..	21440b
31	10995	33.9	-43 58	9.5	9.5	Ao	2	..	20080b	81	11458	34.2	-42 19	9.3	9.4	G5	5	..	19343b
32	10926	33.9	-46 11	11.6	9.7	B9	3	..	20080b	82	11052	34.2	-44 25	10.1	10.2	Ao	2	..	20080b
33	10928	33.9	-46 43	9.7	9.7	G	2	..	20080b	83	10948	34.2	-47 14	9.5	9.4	Ao	5	..	20080b
34	10944	33.9	-47 46	11.0	9.7	B8	2	..	20080b	84	7651	34.2	-55 11	8.85	10.3	Mb	1	..	19926b
35	11070	33.9	-48 34	7.12	6.5	Oe5	..	R	56,138	85	7821	34.2	-56 36	7.36	9.2	K5	4	..	19918b
36	11070	33.9	-48 34	5.59	6.5	Oe5	..	R	56,138	86	5769	34.2	-61 7	8.8	9.0	F8	4	..	19902b
37	8136	33.9	-53 56	9.0	9.2	B9	6	..	19926b	87	2800	34.2	-68 37	8.9	10.3	Ma	1	..	42473b
38	2616	33.9	-69 20	9.4	10.6	K5	1	..	39343b	88	1983	34.3	+52 26	8.0	9.0	Ko	4	..	37609i
39	2065	33.9	-71 39	7.3	7.9	Go	7	..	42473b	89	3140	34.3	+19 49	8.85	9.63	G5	2	..	38775i
40	771	33.9	-81 25	8.5	8.8	F2	5	..	43458b	90	3243	34.3	+9 21	8.9	9.5	Go	1	..	9606b
41	885	34.0	+70 46	8.8	9.6	G5	3	..	37752i	91	3248	34.3	+8 32	9.1	9.6	F8	3	..	19012b
42	879	34.0	+68 13	7.28	8.28	Ko	4	0,5	37752i	92	3267	34.3	+6 51	8.9	9.9	Ko	5	..	19012b
43	2879	34.0	+31 16	9.4	9.7	Fo	1	..	20914i	93	12887	34.3	-23 42	9.1	8.6	Ao	6	..	40302b
44	3225	34.0	-1 35	7.60	8.60	Ko	3	..	3780ri	94	11124	34.3	-38 36	10.1	9.5	Ao	3	..	19343b
45	4181	34.0	-11 30	8.6	8.7	A2	3	..	40287b	95	10571	34.3	-39 55	10.8	10.3	A2	2	..	19343b
46	11460	34.0	-26 7	8.0	8.9	Ko	6	..	40325b	96	10570	34.3	-40 1	11.0	10.0	F5	3	..	19343b
47	11459	34.0	-26 15	8.8	8.6	Fo	6	..	40325b	97	10951	34.3	-47 22	10.1	9.7	B2	3	..	20080b
48	11061	34.0	-27 47	8.2	8.3	Go	6	..	40325b	98	10950	34.3	-47 51	9.5	8.8	B9	8	..	20080b
49	12278	34.0	-28 42	10.1	10.3	A2	3	..	40325b	99	7810	34.3	-54 58	8.67	8.9	Fo	7	..	19926b
50	11178	34.0	-34 6	7.9	8.9	Ko	5	..	17050b	100	7653	34.3	-55 39	8.0	8.4	Ao	3	2,8	36341b

## THE HENRY DRAPER CATALOGUE.

150200

16<sup>h</sup> 34<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3200	34.3	-67 15	9.2	9.8	Go	1	..	39343b	51	6876	34.6	-59 1	7.7	8.7	Ao	8	..	19918b
2	1738	34.4	+59 4	8.2	9.2	Ko	4	..	37802i	52	6617	34.6	-60 9	9.28	9.1	B9	4	..	19902b
3	2624	34.4	+43 46	7.15	7.21	A2	8	..	37609i	53	2619	34.6	-69 22	9.1	9.1	Ao	4	..	42473b
4	2730	34.4	+42 35	8.4	9.6	K5	1	..	38773i	54	1492	34.7	+62 34	8.9	9.2	F2	4	..	37746i
5	2860	34.4	+29 52	7.31	8.09	G5	4	..	38770i	55	3021	34.7	+39 46	6.95	7.95	Ko	5	..	38412i
6	3240	34.4	+3 35	8.3	9.4	K2	3	..	37801i	56	2955	34.7	+21 52	7.8	8.4	Go	3	..	38775i
7	12888	34.4	-23 27	10.3	9.7	Ao	2	..	40087b	57	3183	34.7	+13 14	7.9	8.9	Ko	2	..	38727i
8	13359	34.4	-30 38	8.0	9.2	Ko	5	..	17050b	58	4334	34.7	-5 53	6.79	7.29	F8	5	0,8-	41795b
9	11358	34.4	-33 51	10.5	9.5	A2	3	..	17050b	59	4537	34.7	-20 13	6.46	7.8	Ko	..	0,8	56,138
10	10912	34.4	-37 23	10.8	10.6	A3	3	..	21440b	60	10917	34.7	-37 53	9.1	9.2	F2	6	..	19343b
11	10911	34.4	-37 41	8.3	8.1	F5	9	..	19343b	61	11464	34.7	-42 11	11.0	10.6	Ao	2	..	21440b
12	11125	34.4	-38 28	10.3	10.0	Ao	2	..	19343b	62	11093	34.7	-48 21	9.3	9.6	Ko	3	..	20080b
13	10573	34.4	-39 47	10.8	10.6	Ao	1	..	19343b	63	7659	34.7	-55 59	9.2	9.8	Go	3	..	19918b
14	10796	34.4	-41 52	7.7	9.4	K5	3	..	19343b	64	4002	34.7	-63 17	8.8	9.8	Ko	2	..	19902b
15	10845	34.4	-45 26	10.1	10.0	Ao	3	..	20080b	65	244	34.8	+86 26	var.	var.	Ao	3	R	37294i
16	8139	34.4	-53 59	7.4	9.2	K2	5	..	19926b	66	1823	34.8	+54 48	9.21	10.21	Ko	1	..	38767i
17	7822	34.4	-56 25	10.4	10.4	B9	1	..	19918b	67	2122	34.8	+51 32	8.2	8.3	A2	4	..	37609i
18	3974	34.5	-3 26	8.2	8.2	B9	3	..	37801i	68	3043	34.8	+10 29	8.5	9.6	K2	3	E	19012b
19	4333	34.5	-6 2	10.5	10.5	Ao	2	..	40607b	69	10579	34.8	-39 24	8.5	8.5	A2	7	..	19343b
20	4285	34.5	-8 14	10.5	10.6	A2	2	..	40607b	70	11465	34.8	-42 4	10.1	10.5	Go	3	..	21440b
21	4396	34.5	-21 44	9.5	10.6	K2	1	..	40087b	71	11096	34.8	-48 22	9.3	9.6	A3	5	..	20080b
22	4397	34.5	-21 58	10.1	10.3	G5	2	..	40087b	72	10431	34.8	-51 45	10.1	9.3	A2	2	..	19926b
23	11063	34.5	-27 54	10.3	10.3	Ao	3	..	40325b	73	5772	34.8	-61 14	9.0	10.5	Ko	1	..	19902b
24	11902	34.5	-32 57	10.8	9.9	A2	2	..	17050b	74	4003	34.8	-63 6	9.3	10.3	Ko	1	..	19902b
25	10902	34.5	-36 28	8.6	9.7	F5	5	..	21440b	75	627	34.9	+77 39	6.39	7.17	G5	6	..	37240i
26	11128	34.5	-38 31	8.9	9.5	G5	3	..	19343b	76	1824	34.9	+54 45	9.6	10.6	Ko	1	..	38767i
27	11055	34.5	-44 9	10.3	10.2	G5	1	..	21842b	77	2362	34.9	+47 50	8.2	9.2	Ko	3	..	37609i
28	11054	34.5	-44 43	9.3	10.0	K2	1	..	20080b	78	2756	34.9	+33 42	8.7	9.8	K2	2	..	20914i
29	10933	34.5	-46 53	11.0	10.5	F5	2	..	20080b	79	3309	34.9	+20 48	8.9	9.0	A2	2	..	38775i
30	10952	34.5	-47 11	9.5	8.5	B8	7	R	20080b	80	3058	34.9	+12 29	8.1	8.6	F8	1	..	38727i
31	10953	34.5	-47 11	9.1	8.5	B8	7	R	20080b	81	3246	34.9	+5 42	8.7	9.7	Ko	4	..	19012b
32	11087	34.5	-48 49	10.6	9.9	B9	2	..	20080b	82	3151	34.9	+2 23	9.5	10.6	K2	1	..	40290b
33	455	34.5	-85 19	8.9	9.9	Ko	2	..	13458b	83	4431	34.9	-9 15	9.9	11.1	K5	1	..	40607b
34	1739	34.6	+59 32	8.8	9.4	Go	3	..	38767i	84	4365	34.9	-15 28	8.6	9.0	F5	5	..	40615b
35	2968	34.6	+22 56	8.9	9.7	G5	1	..	38775i	85	11070	34.9	-27 44	11.7	10.7	A2	1	..	40325b
36	3306	34.6	+20 40	8.7	9.8	K2	1	..	38775i	86	11134	34.9	-38 31	9.5	9.7	A2	4	..	19343b
37	3036	34.6	+15 15	8.7	9.5	G5	2	..	38727i	87	10614	34.9	-40 16	9.1	9.4	F2	5	..	19343b
38	4227	34.6	-2 40	8.8	9.6	G5	1	..	40289b	88	10939	34.9	-46 49	9.3	8.8	B5	6	..	20080b
39	4475	34.6	-6 34	10.1	11.1	Ko	1	..	40607b	89	10957	34.9	-47 49	9.7	10.0	K2	2	..	20080b
40	4403	34.6	-19 40	9.2	10.6	G5	1	..	40615b	90	10898	34.9	-49 37	8.6	8.8	Ao	7	..	21842b
41	12728	34.6	-30 0	9.38	9.5	F5	2	..	17050b	91	1142	35.0	+64 6	9.5	9.9	F5	2	..	37746i
42	13364	34.6	-30 11	9.1	9.5	A2	1	..	17050b	92	2784	35.0	+37 22	8.7	9.7	Ko	1	..	38412i
43	13119	34.6	-31 4	10.8	9.9	A2	1	..	17050b	93	2761	35.0	+36 5	8.7	9.7	Ko	2	..	38412i
44	11904	34.6	-32 5	10.5	10.4	Ao	1	..	17050b	94	2757	35.0	+33 27	9.2	10.3	K2	1	..	20914i
45	11130	34.6	-39 0	8.9	9.4	B9	5	..	19343b	95	3038	35.0	+24 53	7.96	8.38	F5	4	..	38770i
46	10576	34.6	-39 52	11.0	10.9	K2	1	..	19343b	96	2999	35.0	+22 25	7.8	8.8	Ko	4	..	38770i
47	11058	34.6	-44 3	10.1	10.2	A	1	..	21842b	97	3161	35.0	-1 1	9.5	9.8	Fo	3	..	40289b
48	10847	34.6	-45 10	7.13	7.5	G5	9	..	20080b	98	4477	35.0	-7 5	10.9	11.5	G	1	R	40607b
49	10429	34.6	-51 22	10.6	9.6	A5	2	..	19926b	99	4613	35.0	-17 8	9.3	9.8	F8	2	..	40615b
50	6875	34.6	-58 17	8.0	7.8	B8	9	..	19918b	100	12740	35.0	-29 21	9.4	9.9	F5	3	..	40325b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

150300

16<sup>h</sup> 35<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10616	35.0	-41 1	11.0	10.9	A2	2	..	21440b	51	11079	35.4	-35 26	8.9	10.9	K5	2	..	21440b
2	10940	35.0	-46 27	10.6	9.5	F8	4	..	20080b	52	11023	35.4	-43 33	7.8	8.2	A3	3	2,8	43871b
3	772	35.0	-81 47	9.7	9.7	A0	2	..	43458b	53	11022	35.4	-43 55	8.3	9.7	K0	3	..	20080b
4	3000	35.1	+22 11	6.87	7.87	K0	6	..	38770i	54	11066	35.4	-44 29	8.9	8.8	A2	6	..	20080b
5	3244	35.1	+9 1	8.1	8.2	A2	5	..	9606b	55	10851	35.4	-45 23	9.7	9.4	A2	5	..	20080b
6	3232	35.1	+4 10	8.5	9.7	K5	2	..	19012b	56	10852	35.4	-46 0	11.6	10.0	A0	2	..	20080b
7	4340	35.1	-7 59	9.2	9.3	A5	4	..	40607b	57	10945	35.4	-47 1	11.0	9.7	B9	3	..	20080b
8	4366	35.1	-10 48	10.1	10.1	A	2	..	40607b	58	7820	35.4	-54 5	8.7	9.5	K5	3	..	19926b
9	4399	35.1	-21 29	9.2	10.3	K2	3	..	40087b	59	6812	35.4	-59 17	7.7	8.2	A0	9	..	19918b
10	11908	35.1	-32 7	9.1	9.8	G5	3	..	17050b	60	1905	35.5	+55 56	9.3	10.3	K0	2	E	37802i
11	10587	35.1	-39 58	11.2	10.3	F5	3	..	19343b	61	2864	35.5	+29 25	7.21	7.21	A0	7	..	38770i
12	11102	35.1	-48 50	9.5	8.8	B5	6	..	20080b	62	2971	35.5	+23 24	8.7	9.5	G5	2	..	38770i
13	10750	35.1	-50 16	8.6	8.7	B9	5	..	21842b	63	2959	35.5	+21 26	8.3	9.3	K0	2	..	38775i
14	7818	35.1	-54 35	8.4	9.2	F8	6	..	19926b	64	3270	35.5	+6 20	10.5	11.1	Go	2	..	19012b
15	7660	35.1	-55 52	9.2	10.4	K0	1	..	19918b	65	4616	35.5	-17 52	6.64	6.78	A5	5	..	3570b
16	5427	35.1	-62 15	9.7	10.5	G5	1	..	19902b	66	12765	35.5	-24 16	6.08	6.3	A5	7	..	38972b
17	2626	35.2	+43 35	8.6	9.6	K0	2	..	38773i	67	11076	35.5	-27 37	6.54	8.0	K0	9	..	40325b
18	3248	35.2	+4 59	9.3	10.4	K2	1	..	19012b	68	12745	35.5	-29 15	8.8	10.3	K0	3	..	40325b
19	3228	35.2	-1 40	8.5	9.6	K2	2	..	40289b	69	10909	35.5	-36 22	9.5	10.6	K2	3	..	21440b
20	4326	35.2	-16 11	9.3	10.1	G5	4	..	40615b	70	10927	35.5	-37 49	10.8	10.8	B9	3	..	21440b
21	12890	35.2	-23 7	8.6	8.9	K0	4	..	40302b	71	11141	35.5	-38 53	9.4	9.5	B8	4	..	19343b
22	13371	35.2	-30 24	9.6	9.8	A0	3	..	17050b	72	10594	35.5	-39 51	9.5	10.0	Go	4	..	19343b
23	11911	35.2	-32 37	8.1	7.6	B5	7	..	17050b	73	10971	35.5	-47 21	10.3	9.7	B	1	R	20080b
24	10620	35.2	-40 45	8.9	9.4	B8	6	..	19343b	74	10970	35.5	-47 23	10.1	9.7	F8	2	..	20080b
25	10805	35.2	-41 28	9.4	10.6	K5	1	..	21440b	75	4005	35.5	-63 14	9.8	9.8	A	1	..	19902b
26	8147	35.2	-53 38	8.5	8.9	B5	7	..	19926b	76	3005	35.5	-66 18	8.2	9.0	G5	4	..	42473b
27	..	35.2	-62 27	..	..	F5	4	..	19902b	77	2199	35.6	+46 36	8.2	9.2	K0	5	..	37609i
28	2299	35.2	-70 41	9.7	9.7	A0	2	..	39343b	78	3235	35.6	+4 25	5.73	5.73	A0	10	R	37801i
29	4342	35.3	-7 13	10.1	11.3	K5	1	..	40607b	79	3234	35.6	+4 24	6.86	6.86	A0	7	..	..
30	4614	35.3	-17 34	10.1	10.7	Go	1	..	40615b	80	3242	35.6	+2 57	9.0	9.8	G5	3	..	40290b
31	11913	35.3	-32 57	5.94	7.1	Go	..	0,8	56,138	81	4287	35.6	-8 7	6.59	7.59	K0	9	..	40607b
32	10591	35.3	-39 37	8.1	8.5	A3	8	..	19343b	82	4190	35.6	-11 39	7.03	8.21	K5	5	..	40287b
33	11107	35.3	-48 44	9.9	9.3	B9	4	..	20080b	83	11477	35.6	-26 55	var.	var.	Mc	..	R	M
34	7826	35.3	-56 36	9.9	9.9	A0	2	..	19918b	84	11380	35.6	-33 35	10.3	9.3	A0	4	..	17050b
35	7825	35.3	-56 41	9.4	10.4	K	1	..	19918b	85	11198	35.6	-34 16	8.8	9.2	F8	3	..	17050b
36	3353	35.3	-65 41	8.9	8.9	B9	6	..	42473b	86	10811	35.6	-41 55	9.2	9.4	F0	4	..	19343b
37	2301	35.3	-70 30	9.6	9.7	A2	3	..	42473b	87	10948	35.6	-46 43	11.0	10.2	K0	1	..	20080b
38	2070	35.3	-71 7	9.6	9.7	A5	2	..	42473b	88	10947	35.6	-47 2	10.3	9.7	F5	3	..	20080b
39	2762	35.4	+33 37	8.9	9.7	G5	1	..	20914i	89	3553	35.6	-64 53	8.1	8.1	A0	7	..	19902b
40	2970	35.4	+23 11	7.00	7.28	F0	7	..	38770i	90	2629	35.7	+43 7	9.5	10.3	G5	1	..	38773i
41	3067	35.4	+17 1	8.1	9.3	K5	1	..	38727i	91	2811	35.7	+38 32	7.51	7.57	A2	7	..	38412i
42	3045	35.4	+10 2	9.5	10.1	Go	1	..	19012b	92	2847	35.7	+35 43	8.6	9.7	K2	1	..	38412i
43	3219	35.4	+7 49	8.7	9.9	K5	4	..	19012b	93	3069	35.7	+17 54	7.42	8.49	K2	3	..	38775i
44	4369	35.4	-15 10	8.11	8.53	F5	6	..	40615b	94	4143	35.7	-4 25	9.0	10.2	K5	1	..	39474b
45	12762	35.4	-24 12	8.6	8.3	F8	7	..	40302b	95	4476	35.7	-13 12	8.3	9.5	K5	2	..	40287b
46	11473	35.4	-26 55	9.0	9.8	K0	2	..	40325b	96	11082	35.7	-35 53	10.3	10.6	A0	3	..	21440b
47	12293	35.4	-28 23	8.8	8.9	B9	5	..	40325b	97	10913	35.7	-36 27	10.8	10.8	Go	2	..	21440b
48	13375	35.4	-30 15	8.8	10.1	K2	1	..	40325b	98	11145	35.7	-38 44	9.5	9.4	A5	5	..	19343b
49	13134	35.4	-31 14	9.6	9.8	F8	2	..	17050b	99	11472	35.7	-42 42	9.1	8.8	A0	3	..	19655b
50	11916	35.4	-32 36	8.8	8.6	A2	5	..	17050b	100	10951	35.7	-46 10	9.7	9.4	A0	4	..	20080b

## THE HENRY DRAPER CATALOGUE.

150400

16<sup>h</sup> 35<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10973	35.7	-47 59	9.5	9.4	B5	5	..	2008ob	51	3168	36.0	-0 48	6.26	6.40	A5	9	..	378ori
2	11111	35.7	-48 35	9.9	9.6	Ko	2	..	2008ob	52	4191	36.0	-11 36	9.0	9.1	A2	3	..	40287b
3	11112	35.7	-48 41	8.3	8.8	K2	7	..	2008ob	53	4406	36.0	-19 44	5.60	6.9	F5	7	..	357ob
4	11113	35.7	-48 44	11.0	9.9	A3	2	..	2008ob	54	13387	36.0	-30 48	9.3	9.9	A3	2	..	1705ob
5	10911	35.7	-49 41	9.2	9.1	F5	7	..	21842b	55	10918	36.0	-36 27	10.1	10.6	Ko	3	..	2144ob
6	7829	35.7	-56 8	8.6	10.4	Ko	1	..	19918b	56	10634	36.0	-40 25	8.1	8.2	B8	9	..	19343b
7	6879	35.7	-58 22	7.8	8.5	F8	8	..	19918b	57	10635	36.0	-40 33	9.1	9.4	F2	6	..	19343b
8	3202	35.7	-67 34	6.9	7.0	A2	..	2,9	56,138	58	10916	36.0	-49 30	9.7	9.3	Ao	5	..	21842b
9	2530	35.8	+49 4	6.73	8.08	Ma	5	..	37609i	59	8155	36.0	-53 30	9.6	9.5	B5	3	..	19926b
10	2764	35.8	+33 54	8.9	10.0	K2	1	..	20914i	60	7831	36.0	-56 35	9.0	9.2	Ao	4	..	19918b
11	3251	35.8	+9 50	9.27	10.27	Ko	2	..	19012b	61	3358	36.0	-65 19	8.8	8.9	A2	5	..	42473b
12	3273	35.8	+6 10	9.3	10.3	Ko	3	..	19012b	62	2849	36.1	+35 44	8.0	8.0	Ao	8	..	38412i
13	3274	35.8	+5 58	9.3	10.1	G5	4	..	19012b	63	2824	36.1	+34 49	7.97	8.97	Ko	3	..	38412i
14	3977	35.8	-4 3	9.9	10.2	F	1	..	39474b	64	2962	36.1	+21 42	8.7	9.9	K5	1	..	38775i
15	4327	35.8	-16 45	8.2	8.6	F5	5	..	40615b	65	3244	36.1	+3 10	8.9	9.4	F8	3	..	19012b
16	4618	35.8	-17 33	5.04	6.04	Ko	6	..	357ob	66	3978	36.1	-4 2	8.2	8.5	Fo	4	..	378ori
17	13380	35.8	-30 20	7.66	8.7	Ko	6	..	1705ob	67	4478	36.1	-13 11	9.0	9.8	G5	2	..	40287b
18	13140	35.8	-31 18	9.3	9.8	Go	2	..	1705ob	68	4328	36.1	-16 10	8.8	9.9	K2	3	..	40615b
19	11923	35.8	-32 35	9.5	9.4	G5	4	..	1705ob	69	4307	36.1	-18 46	9.2	10.0	G5	2	..	40331b
20	10916	35.8	-36 53	6.56	7.5	G5	7	..	22853b	70	12768	36.1	-24 37	8.8	9.5	Ko	5	..	40302b
21	10858	35.8	-45 53	6.28	7.2	F5	10	..	2008ob	71	12758	36.1	-29 27	9.8	10.5	F8	1	..	40325b
22	10952	35.8	-46 19	9.5	8.8	B2	5	..	2008ob	72	11927	36.1	-32 6	8.8	8.4	Ao	7	..	1705ob
23	11115	35.8	-48 5	9.9	9.0	B5	6	..	2008ob	73	11206	36.1	-34 33	9.5	10.0	Ao	1	..	1705ob
24	10915	35.8	-49 55	9.22	8.8	B5	4	..	21842b	74	10931	36.1	-37 9	7.14	8.2	G5	6	..	22853b
25	10755	35.8	-50 17	8.7	9.0	F5	3	..	21842b	75	10930	36.1	-37 39	8.8	8.8	B2	4	..	22853b
26	6621	35.8	-60 15	8.6	9.9	Ko	2	..	19902b	76	11479	36.1	-42 17	9.7	10.6	K2	2	..	2144ob
27	5429	35.8	-62 13	9.8	10.4	Go	1	..	19902b	77	11037	36.1	-43 27	7.9	7.9	Ao	3	0,8	43871b
28	3007	35.8	-66 50	8.4	9.5	K2	3	..	42473b	78	10984	36.1	-47 25	10.1	9.7	G5	2	..	2008ob
29	1289	35.9	+63 17	6.44	7.62	K5	7	..	37746i	79	10155	36.1	-52 42	8.8	9.4	Ko	2	..	19926b
30	2848	35.9	+35 17	8.1	9.1	Ko	2	..	38412i	80	10154	36.1	-53 3	8.3	8.5	A2	5	..	19926b
31	3113	35.9	+25 44	8.3	9.3	Ko	2	..	38770i	81	6623	36.1	-60 25	8.6	8.8	Ao	7	..	19902b
32	3243	35.9	+3 49	8.5	9.6	K2	3	..	19012b	82	492	36.2	+82 6	9.1	9.5	F5	2	..	37820i
33	4230	35.9	-2 39	7.09	7.65	Go	6	..	37801i	83	3063	36.2	+12 35	5.98	6.04	A2	10	..	38727i
34	4187	35.9	-22 53	10.8	10.6	A2	2	..	40087b	84	3562	36.2	+0 41	8.9	9.5	Go	3	..	37801i
35	12303	35.9	-28 18	10.3	10.4	G5	2	..	40325b	85	12894	36.2	-23 5	10.3	10.6	Ko	1	..	40087b
36	12302	35.9	-28 39	9.1	9.2	Go	4	..	40325b	86	11149	36.2	-38 28	7.7	7.4	B9	4	..	43871b
37	12301	35.9	-28 56	7.70	8.1	G5	7	..	40325b	87	10605	36.2	-39 19	7.7	8.8	G5	6	..	19343b
38	12753	35.9	-29 11	9.6	11.0	Ma	1	..	40325b	88	10956	36.2	-46 39	9.7	8.8	B9	7	..	2008ob
39	11146	35.9	-38 46	9.1	9.4	F8	5	..	19343b	89	10988	36.2	-47 9	9.5	9.1	Ao	6	..	2008ob
40	10602	35.9	-39 53	10.5	10.0	F5	4	..	19343b	90	1861	36.3	+55 52	9.2	9.8	G	2	..	37802i
41	10630	35.9	-40 6	8.36	9.2	K2	6	..	19343b	91	2813	36.3	+38 24	8.1	9.1	Ko	2	..	38412i
42	10860	35.9	-45 53	10.6	10.0	Ao	2	..	2008ob	92	3022	36.3	+10 56	8.5	9.7	K5	1	..	19012b
43	10953	35.9	-46 35	9.7	10.2	K5	2	..	2008ob	93	3286	36.3	+1 24	6.64	7.64	Ko	7	..	378ori
44	10979	35.9	-47 54	9.3	9.7	Ko	4	..	2008ob	94	4482	36.3	-6 32	9.5	9.6	A2	5	..	40607b
45	10445	35.9	-51 50	8.7	8.7	A2	6	..	19926b	95	4190	36.3	-22 31	9.9	10.0	F5	2	..	40302b
46	8153	35.9	-53 18	8.2	9.2	Ao	6	..	19926b	96	12761	36.3	-29 12	9.1	9.7	Go	3	..	40325b
47	3356	35.9	-66 0	8.7	9.5	G5	2	..	42473b	97	11931	36.3	-32 30	8.5	8.4	B8	6	..	1705ob
48	1906	36.0	+56 20	9.1	9.7	Go	3	..	38767i	98	10817	36.3	-41 35	10.1	10.9	K5	1	..	2144ob
49	1907	36.0	+56 13	5.44	6.22	G5	10	..	37802i	99	11041	36.3	-43 17	9.9	9.7	B8	2	..	21842b
50	2531	36.0	+49 7	5.14	6.49	Ma	..	0,10	6917c	100	10958	36.3	-46 55	7.4	7.2	B8	10	..	2008ob

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

150500

16<sup>h</sup> 36<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10990	36.3	-47 32	10.6	10.0	Ao	2	..	20080b	51	2625	36.6	-69 44	9.7	9.7	Ao	2	..	42473b
2	11122	36.3	-48 19	10.3	9.3	Ao	4	..	20080b	52	1497	36.7	+62 46	9.3	9.9	Go	3	..	37746i
3	10924	36.3	-49 30	11.0	10.1	Ao	2	..	21842b	53	2973	36.7	+22 57	8.3	8.6	Fo	3	..	38770i
4	10923	36.3	-49 41	9.9	9.6	Ao	3	..	21842b	54	3002	36.7	+22 8	7.9	8.4	F8	4	..	38770i
5	8113	36.3	-57 49	10.0	10.3	Fo	1	..	19918b	55	3071	36.7	+17 26	9.0	9.1	A2	2	..	38775i
6	6882	36.3	-58 17	8.8	8.8	B9	4	..	19918b	56	3256	36.7	+ 8 9	9.8	10.4	Go	2	..	19012b
7	6626	36.3	-60 11	10.0	10.0	Ao	1	..	19902b	57	3290	36.7	+ 1 21	5.86	6.14	Fo	10	..	37801i
8	531	36.3	-84 8	8.3	9.7	Ma	3	..	43458b	58	4485	36.7	- 6 44	8.8	10.0	K5	4	..	40607b
9	2125	36.4	+51 1	7.03	8.03	Ko	6	..	37609i	59	4292	36.7	- 8 35	10.3	10.6	F	1	..	40607b
10	2786	36.4	+37 45	8.7	9.5	G5	2	..	38412i	60	12770	36.7	-29 16	9.1	8.7	A2	5	..	40325b
11	3288	36.4	+ 1 30	9.8	10.9	K2	2	..	40290b	61	11391	36.7	-33 51	9.5	10.5	F8	2	..	39202b
12	4346	36.4	- 7 43	9.9	10.5	Go	4	..	40607b	62	11127	36.7	-48 28	10.6	9.6	A2	2	..	20080b
13	4407	36.4	-19 53	8.8	8.6	A2	6	..	40615b	63	10930	36.7	-49 35	7.9	9.3	K2	4	..	21842b
14	4408	36.4	-19 59	8.33	8.8	B9	6	..	40615b	64	2815	36.7	-68 58	8.6	9.4	G5	5	..	42473b
15	12896	36.4	-23 29	10.3	10.3	F	2	..	40087b	65	2304	36.7	-70 47	9.2	10.3	K2	2	..	42473b
16	11086	36.4	-27 19	11.0	11.0	Ko	1	..	40325b	66	2787	36.8	+37 33	7.80	8.87	K2	3	..	38412i
17	11935	36.4	-32 27	10.1	10.2	A	1	..	17050b	67	2867	36.8	+29 6	8.0	9.1	K2	3	..	38770i
18	11480	36.4	-43 2	10.6	10.0	A2	3	..	21440b	68	2998	36.8	+16 19	7.7	8.8	K2	2	..	38727i
19	11074	36.4	-44 9	7.8	9.5	K5	3	..	20080b	69	13396	36.8	-30 12	9.03	8.7	Ao	5	..	17050b
20	10960	36.4	-46 48	11.6	9.7	A5	3	..	20080b	70	13153	36.8	-31 10	8.6	9.3	Ko	3	..	17050b
21	10925	36.4	-49 18	9.9	9.0	Ao	7	..	21842b	71	10616	36.8	-39 17	8.5	8.9	Go	6	..	19343b
22	7673	36.4	-56 0	9.3	9.9	Go	3	..	19918b	72	10615	36.8	-39 46	10.5	9.7	B8	4	..	21440b
23	6883	36.4	-58 15	9.0	9.1	B9	3	..	19918b	73	10649	36.8	-40 56	6.29	6.7	A3	..	0.9	56,139
24	3252	36.5	+ 9 17	9.0	10.0	Ko	3	..	19012b	74	10875	36.8	-45 57	8.5	8.5	Bo	5	..	20080b
25	3254	36.5	+ 5 4	6.75	6.75	Ao	7	..	9606b	75	10455	36.8	-51 49	9.5	9.4	Ao	3	..	19926b
26	4484	36.5	- 6 51	10.5	11.5	Ko	1	..	40607b	76	10161	36.8	-52 58	5.97	7.3	Ko	..	0.10	56,139
27	4409	36.5	-19 58	8.48	8.6	F5	5	..	40615b	77	7676	36.8	-55 32	7.3	8.4	B8	7	..	19918b
28	12310	36.5	-28 44	11.0	10.7	A2	1	..	40325b	78	1604	36.9	+61 23	7.01	8.19	K5	5	..	37746i
29	11084	36.5	-35 28	8.2	8.5	Ao	4	..	17050b	79	2788	36.9	+37 13	8.80	9.58	G5	2	..	38412i
30	10926	36.5	-36 27	7.9	8.9	Ko	4	..	22853b	80	3115	36.9	+25 3	6.22	7.29	K2	7	..	38770i
31	10933	36.5	-37 57	9.5	10.3	Go	4	..	21440b	81	3291	36.9	+ 1 12	9.8	10.8	Ko	2	..	40290b
32	10818	36.5	-41 47	10.5	9.7	F5	3	..	21440b	82	3233	36.9	- 1 58	8.72	9.72	Ko	2	..	37801i
33	10869	36.5	-45 16	9.3	9.7	Bo	2	..	20080b	83	4486	36.9	- 6 29	10.1	10.7	Go	3	..	40607b
34	10964	36.5	-46 31	9.3	9.4	Ko	3	..	20080b	84	4487	36.9	- 7 3	9.5	10.6	K2	2	..	40607b
35	11124	36.5	-48 19	8.0	8.4	Ao	9	..	20080b	85	4193	36.9	-23 3	10.9	10.5	F8	2	..	40087b
36	7832	36.5	-54 5	9.3	9.3	Ao	4	..	19926b	86	12898	36.9	-23 31	9.8	9.8	A2	2	..	40302b
37	2858	36.6	+30 3	7.86	7.86	Ao	5	..	38770i	87	12782	36.9	-24 55	9.75	11.0	G5	1	..	40302b
38	3275	36.6	+ 6 29	9.8	10.2	F5	2	..	19012b	88	12780	36.9	-25 2	10.05	10.4	A2	2	..	40302b
39	3230	36.6	- 1 57	8.07	8.07	Ao	6	0.4	39474b	89	11488	36.9	-26 16	8.2	8.7	F2	6	..	40325b
40	3231	36.6	- 2 0	8.72	8.72	A	4	..	39474b	90	11161	36.9	-38 8	10.8	10.0	Ao	3	..	21440b
41	4332	36.6	-16 51	8.8	9.8	Ko	2	..	40615b	91	10653	36.9	-40 55	6.17	6.4	B8	..	0.10	56,139
42	4192	36.6	-22 56	10.5	10.3	A2	3	..	40087b	92	10973	36.9	-46 53	9.5	8.5	B9	7	..	20080b
43	11484	36.6	-27 0	7.9	9.3	K2	4	..	40325b	93	7677	36.9	-55 3	9.13	9.3	Ao	5	0.3	19926b
44	12768	36.6	-29 36	10.1	10.2	Go	1	..	40325b	94	6884	36.9	-58 7	9.0	9.3	B8	3	..	19918b
45	10872	36.6	-45 35	10.1	10.3	G5	1	..	20080b	95	6885	36.9	-58 43	9.0	10.5	B8	4	..	19954b
46	10966	36.6	-46 37	11.0	9.7	B9	3	..	20080b	96	5775	36.9	-61 28	6.9	6.9	Ao	8	..	4971b
47	10995	36.6	-47 21	9.9	9.4	A2	4	..	20080b	97	3557	36.9	-64 16	7.8	8.9	K2	4	..	19902b
48	6629	36.6	-60 22	7.62	7.8	B8	8	..	19902b	98	3011	36.9	-66 7	9.3	9.3	Ao	4	..	42473b
49	3009	36.6	-66 55	5.30	5.30	Aop	..	R	56,139	99	1567	36.9	-74 37	8.8	8.8	A	3	..	20270b
50	3204	36.6	-67 55	6.60	6.9	Ao	..	0.10	56,139	100	3004	37.0	+22 39	7.24	8.24	Ko	4	..	38770i



## THE HENRY DRAPER CATALOGUE.

150600

16<sup>h</sup> 37<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4401	37.0	-22 1	10.1	10.3	A2	2	..	40302b	51	3157	37.3	+ 2 17	9.1	9.9	G5	3	..	4029ob
2	12899	37.0	-23 46	10.5	10.9	K	1	..	40087b	52	3156	37.3	+ 1 58	9.5	10.6	K2	2	..	4029ob
3	11490	37.0	-26 32	9.3	9.3	A5	4	..	40325b	53	3237	37.3	- 1 36	9.1	10.2	K2	2	..	3780ri
4	11089	37.0	-27 46	11.7	10.7	Fo	1	..	40325b	54	3238	37.3	- 1 55	8.07	9.14	K2	3	..	3780ri
5	11090	37.0	-27 51	10.8	10.4	Go	1	..	40325b	55	10938	37.3	-36 27	9.2	11.4	Ma	1	..	2144ob
6	12775	37.0	-29 11	10.1	10.4	G5	2	..	40325b	56	11168	37.3	-38 49	10.1	10.0	Go	3	..	19343b
7	12774	37.0	-29 18	10.5	11.0	Fo	1	..	40325b	57	11056	37.3	-43 21	9.3	10.0	B8	1	..	21842b
8	10942	37.0	-37 58	6.16	6.9	Ao	10	..	22853b	58	10979	37.3	-46 51	9.7	8.8	B8	5	..	2008ob
9	11163	37.0	-38 54	10.5	10.5	F5	3	..	2144ob	59	11014	37.3	-47 49	10.1	9.7	B8	3	..	2008ob
10	11049	37.0	-43 12	9.9	10.2	Ao	1	..	21842b	60	8160	37.3	-53 45	9.7	9.5	B3	2	..	19926b
11	10879	37.0	-45 34	11.0	10.3	Ao	1	..	2008ob	61	3013	37.3	-66 42	8.5	9.5	Ko	2	..	42473b
12	10166	37.0	-52 54	9.5	9.6	A3	1	..	19926b	62	532	37.3	-84 7	8.4	9.4	Ko	4	..	43458b
13	3012	37.0	-66 38	8.4	9.2	G5	4	..	42473b	63	2598	37.4	+44 13	8.4	9.2	G5	3	..	37609i
14	2533	37.1	+49 26	9.2	9.7	F8	1	..	37609i	64	2859	37.4	+30 20	8.5	8.6	A5	3	..	20914i
15	3000	37.1	+16 9	7.9	9.3	Ma	2	..	38727i	65	2879	37.4	+26 17	7.62	8.62	Ko	3	..	3877oi
16	3155	37.1	+ 2 28	8.0	8.1	A2	6	..	3780ri	66	2966	37.4	+21 13	8.9	9.7	G5	1	..	38775i
17	3294	37.1	+ 1 39	8.9	9.2	F2	3	..	3780ri	67	3258	37.4	+ 8 36	8.6	9.1	F8	5	..	19012b
18	3293	37.1	+ 1 26	8.6	8.9	F2	5	..	3780ri	68	4310	37.4	-18 16	9.5	10.6	K2	2	..	40331b
19	4489	37.1	- 6 12	10.1	10.1	Ao	4	..	40607b	69	12787	37.4	-24 51	9.3	9.9	A2	4	..	40302b
20	4373	37.1	-10 58	7.12	7.18	A2	7	..	40287b	70	11960	37.4	-32 51	9.7	10.8	G5	1	..	39202b
21	4403	37.1	-21 9	8.2	8.8	F8	5	0.3	40302b	71	11399	37.4	-33 22	10.1	9.9	Ao	1	R	1705ob
22	10935	37.1	-36 41	9.4	9.7	Ao	3	..	22853b	72	11170	37.4	-38 34	10.1	10.0	A3	4	..	2144ob
23	10934	37.1	-36 52	9.5	9.7	F5	3	..	22853b	73	11486	37.4	-42 12	9.5	9.5	A	3	R	19343b
24	11166	37.1	-38 44	8.6	9.1	Ko	5	..	19343b	74	11487	37.4	-42 12	8.7	9.4	K	3	..	19343b
25	11081	37.1	-44 35	9.9	9.5	B8	3	..	2008ob	75	11017	37.4	-47 27	7.2	8.0	Ko	9	..	2008ob
26	10881	37.1	-45 22	11.6	10.2	Ao	1	..	2008ob	76	10936	37.4	-49 15	8.9	8.5	A2	7	..	21842b
27	11011	37.1	-47 17	11.6	10.0	B5	2	..	2008ob	77	1827	37.5	+54 36	8.2	8.3	A2	3	..	37802i
28	10772	37.1	-50 24	8.4	9.0	Ao	4	..	21842b	78	2735	37.5	+42 21	8.3	9.3	Ko	3	..	38773i
29	7839	37.1	-56 58	8.5	9.5	Ao	4	..	19918b	79	2767	37.5	+36 23	7.19	7.25	A2	7	..	38412i
30	5430	37.1	-62 7	9.7	10.9	K5	1	..	19902b	80	2884	37.5	+31 47	3.00	3.56	Go	..	R	2823c
31	887	37.2	+70 0	8.04	8.46	F5	5	..	37752i	81	2861	37.5	+30 28	7.47	7.75	Fo	5	..	3877oi
32	3146	37.2	+19 8	7.39	8.46	K2	3	..	38775i	82	2668	37.5	+27 7	5.91	6.25	F2	10	..	3877oi
33	3196	37.2	+13 22	7.7	8.7	Ko	3	..	38727i	83	3222	37.5	+18 50	7.7	8.0	Fo	3	..	38775i
34	4194	37.2	-22 9	10.1	10.0	F8	2	..	40302b	84	3565	37.5	+ 0 14	9.3	9.3	Ao	3	..	4029ob
35	12329	37.2	-28 7	8.1	8.6	F8	6	..	40325b	85	4490	37.5	- 6 53	9.9	10.0	A2	2	..	40607b
36	12326	37.2	-28 29	10.5	10.4	Ao	3	..	40325b	86	4294	37.5	- 8 46	8.2	8.7	F8	7	..	40597b
37	13402	37.2	-31 2	7.78	7.8	A3	9	..	1705ob	87	4195	37.5	-23 4	10.3	10.6	G5	3	..	40087b
38	13161	37.2	-31 55	6.55	6.9	B9	..	..	56,139	88	11962	37.5	-32 23	8.8	9.4	Go	3	..	1705ob
39	11953	37.2	-32 51	10.8	11.0	A5	1	..	39202b	89	11173	37.5	-38 45	7.7	8.2	Ko	8	..	19343b
40	11954	37.2	-32 57	8.5	11.0	K5	1	..	1705ob	90	10628	37.5	-39 59	10.3	10.6	G5	1	..	2144ob
41	11167	37.2	-38 8	7.86	7.4	Ao	7	..	22853b	91	10658	37.5	-40 17	10.5	10.5	Go	2	..	2144ob
42	10656	37.2	-40 15	9.1	9.4	B8	5	..	2144ob	92	3206	37.5	-67 32	9.0	9.0	Ao	5	..	42473b
43	10828	37.2	-41 33	8.8	8.8	Ao	3	..	19655b	93	888	37.6	+70 2	7.89	8.17	Fo	5	..	37752i
44	11054	37.2	-43 35	8.6	8.6	Ao	6	..	2008ob	94	2634	37.6	+43 19	9.3	10.1	G5	3	..	38773i
45	11082	37.2	-44 11	7.7	8.0	A2	8	..	2008ob	95	3277	37.6	+ 6 21	9.1	10.1	Ko	3	..	19012b
46	10883	37.2	-45 11	9.86	9.7	Ao	2	..	2008ob	96	3566	37.6	+ 0 43	9.0	9.1	A3	6	3,4	4029ob
47	10976	37.2	-46 36	8.6	8.8	G5	5	..	2008ob	97	4482	37.6	-13 50	8.12	8.46	F2	5	..	40287b
48	11013	37.2	-47 35	10.6	9.5	B8	4	..	2008ob	98	11504	37.6	-26 37	6.86	7.5	Go	8	..	40325b
49	456	37.2	-85 27	9.3	9.3	Ao	4	..	13458b	99	11503	37.6	-26 56	11.0	10.7	A2	2	..	40325b
50	2737	37.3	+41 53	9.5	10.7	K5	1	..	38773i	100	12788	37.6	-29 23	8.2	8.4	Ao	6	..	40325b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

150700

16<sup>h</sup> 37<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	13409	37.6	-30 36	9.4	9.4	Go	1	..	1705ob	51	3260	37.9	+ 8 32	9.3	10.1	G5	1	..	19012b
2	10890	37.6	-45 55	8.4	8.2	A2	7	..	2008ob	52	3258	37.9	+ 5 16	9.1	9.2	A5	2	..	9606b
3	8162	37.6	-53 36	9.8	9.8	Ao	2	..	19926b	53	4439	37.9	- 9 41	9.9	10.7	G5	1	..	40607b
4	3359	37.6	-65 53	8.5	9.3	G5	6	..	42473b	54	12791	37.9	-29 6	9.6	8.7	Ao	4	..	40325b
5	2820	37.6	-68 21	8.8	8.8	Ao	6	..	42473b	55	11181	37.9	-38 49	10.5	10.2	A2	3	..	21440b
6	519	37.7	+80 0	6.95	7.51	Go	5	..	37240i	56	10635	37.9	-39 12	7.21	7.6	Ko	..	0,9	56,139
7	1133	37.7	+65 37	9.1	9.7	G	3	..	37746i	57	10634	37.9	-39 23	11.2	10.3	Ao	2	..	21440b
8	1691	37.7	+60 54	var.	var.	G5	3	R	37802i	58	11138	37.9	-48 10	10.1	9.3	Ao	3	..	2008ob
9	2736	37.7	+42 40	7.56	8.63	K2	4	..	38773i	59	10177	37.9	-52 42	9.3	9.6	F2	2	..	19926b
10	2886	37.7	+31 4	6.97	7.39	F5	7	..	38770i	60	8117	37.9	-57 21	10.3	10.3	Ao	2	..	19918b
11	3198	37.7	+13 14	8.3	9.1	G5	1	..	38727i	61	1329	37.9	-75 27	8.3	9.1	G5	3	..	42633b
12	4475	37.7	-14 40	8.4	9.6	K5	2	..	40287b	62	1864	38.0	+55 18	9.0	10.0	Ko	2	..	37802i
13	4547	37.7	-20 30	7.62	8.3	Ao	6	0,8	40615b	63	3224	38.0	+18 42	8.7	9.5	G5	2	..	38775i
14	4196	37.7	-22 32	7.47	7.7	Ao	9	..	40302b	64	3254	38.0	+ 3 39	7.7	7.8	A5	5	..	37801i
15	12792	37.7	-25 1	10.5	10.1	Ao	3	..	40302b	65	3982	38.0	- 3 57	7.87	9.05	K5	3	..	37801i
16	11637	37.7	-25 35	9.4	9.8	Ao	4	..	40302b	66	4476	38.0	-15 3	8.61	8.75	A5	6	..	40615b
17	12336	37.7	-28 29	8.8	8.9	A2	5	..	40325b	67	12903	38.0	-23 49	9.3	9.4	Ao	4	..	40302b
18	12335	37.7	-28 48	8.6	10.7	K5	2	..	40325b	68	11103	38.0	-27 16	6.38	7.5	Ao	9	..	40325b
19	13411	37.7	-30 4	8.0	9.3	K5	3	3,3	1705ob	69	12344	38.0	-28 55	9.6	10.4	F5	2	..	40325b
20	11404	37.7	-33 8	10.8	10.5	Ao	1	..	39202b	70	11182	38.0	-38 26	11.0	10.6	B9	2	..	21440b
21	11406	37.7	-33 49	9.7	10.5	G5	2	..	39202b	71	11183	38.0	-39 2	10.8	10.6	F2	2	..	21440b
22	11233	37.7	-34 15	9.4	10.6	Ko	1	..	39202b	72	10836	38.0	-41 4	9.2	8.9	Ao	2	..	19655b
23	10891	37.7	-45 59	9.5	9.4	B8	4	..	2008ob	73	11494	38.0	-42 19	9.3	10.0	Ko	2	..	21440b
24	10939	37.7	-49 26	8.0	7.9	A3	9	..	21842b	74	11073	38.0	-43 58	9.7	9.5	A2	2	..	2008ob
25	10780	37.7	-50 53	8.6	9.6	K5	1	..	19895b	75	6890	38.0	-58 51	7.7	9.6	K2	2	..	19918b
26	10469	37.7	-51 55	9.1	9.6	K2	1	..	19926b	76	6635	38.0	-60 49	8.5	8.7	B9	6	..	19902b
27	7680	37.7	-55 56	9.8	9.8	Ao	4	..	19918b	77	2821	38.0	-68 25	9.7	9.7	Ao	3	..	42473b
28	7842	37.7	-56 46	9.0	9.2	B8	4	..	19918b	78	1225	38.0	-77 35	9.4	10.5	K2	1	..	42633b
29	2629	37.7	-69 17	9.8	10.3	F8	1	..	39343b	79	2425	38.1	+48 11	8.7	9.7	K	2	..	37609i
30	628	37.8	+77 53	8.0	8.1	A2	5	..	37240i	80	2768	38.1	+36 39	Cl.	Cl.	Con.	3	R	38412i
31	3007	37.8	+22 3	9.1	9.6	F8	1	..	38775i	81	2970	38.1	+21 46	7.06	7.06	Ao	7	..	38770i
32	3569	37.8	+ 0 17	8.5	9.1	Go	2	..	37801i	82	3203	38.1	+13 49	8.4	9.4	Ko	1	..	38727i
33	4296	37.8	- 8 34	9.5	10.3	G5	2	..	40607b	83	3052	38.1	+10 7	10.5	10.5	Ao	2	..	19012b
34	4197	37.8	-22 56	8.13	7.9	Go	6	..	40302b	84	4347	38.1	- 7 55	8.2	9.0	G5	7	..	40597b
35	12793	37.8	-24 53	10.8	10.7	A2	2	..	40302b	85	4487	38.1	-13 51	9.0	9.6	Go	2	..	40287b
36	11638	37.8	-25 6	9.6	10.7	A5	2	..	40302b	86	4624	38.1	-17 59	9.5	9.6	A3	4	..	40331b
37	11100	37.8	-27 50	11.0	10.7	A5	1	..	40325b	87	11104	38.1	-27 15	10.8	9.8	Ao	3	..	40325b
38	13414	37.8	-30 49	8.0	9.9	Ma	2	0,2	40325b	88	13420	38.1	-30 57	9.6	10.5	K2	1	..	1705ob
39	11178	37.8	-38 41	11.9	10.6	G5	1	..	21440b	89	11970	38.1	-32 23	10.5	9.9	A2	1	..	1705ob
40	10633	37.8	-39 6	10.3	9.4	A5	3	..	19343b	90	10954	38.1	-37 29	10.1	10.6	A2	2	..	21440b
41	10662	37.8	-40 8	9.5	10.6	K2	2	..	21440b	91	11184	38.1	-38 16	9.5	10.6	G5	2	..	21440b
42	10661	37.8	-40 39	5.68	5.8	B3	..	0,10	56,139	92	10839	38.1	-41 18	9.5	9.1	B8	4	..	21440b
43	10834	37.8	-41 44	7.9	8.3	Ao	4	..	19655b	93	11074	38.1	-43 22	9.7	10.0	Ao	1	..	21842b
44	8116	37.8	-57 35	9.5	10.1	Go	2	..	19918b	94	11095	38.1	-44 49	9.9	10.0	F2	2	..	2008ob
45	6889	37.8	-58 19	5.94	5.77	B3	..	0,10	28,211	95	10993	38.1	-46 49	10.3	10.2	Ko	1	..	2008ob
46	3559	37.8	-64 11	8.4	9.5	K2	1	..	19902b	96	8118	38.1	-57 18	8.8	9.3	B9	4	..	19918b
47	740	37.9	+72 35	8.46	9.46	Ko	1	..	37752i	97	5432	38.1	-62 46	8.3	8.3	Ao	7	..	19902b
48	2535	37.9	+49 22	8.9	9.9	K	1	..	37609i	98	2822	38.1	-68 51	1.88	2.95	K2	..	R	28,211
49	2826	37.9	+34 48	7.67	8.09	F5	6	..	38412i	99	3119	38.2	+25 38	9.4	10.0	Go	1	..	38770i
50	2869	37.9	+29 37	8.9	9.3	F5	3	..	20914i	100	3028	38.2	+11 8	7.9	9.1	K5	4	..	19012b

## THE HENRY DRAPER CATALOGUE.

150800

16<sup>h</sup> 38<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3255	38.2	+ 9 20	9.1	9.7	Go	4	..	19012b	51	11148	38.5	-48 10	10.1	9.3	Ao	4	..	2008ob
2	3259	38.2	+ 5 52	9.8	10.4	Go	2	..	19012b	52	7841	38.5	-54 5	8.7	9.6	K2	2	..	19926b
3	4315	38.2	-18 21	8.2	9.2	Ko	5	..	40331b	53	7842	38.5	-54 13	10.1	10.1	Ao	2	..	19926b
4	11509	38.2	-26 8	9.1	9.8	K5	3	..	40325b	54	8120	38.5	-57 9	9.2	9.6	B9	4	..	19918b
5	11972	38.2	-32 18	8.8	9.3	Ko	3	..	17050b	55	5778	38.5	-61 58	8.6	9.7	K2	2	..	19902b
6	11008	38.2	-44 35	9.2	9.7	Ko	2	..	2008ob	56	1227	38.5	-77 51	9.2	9.2	Ao	3	..	42633b
7	10899	38.2	-45 30	10.3	9.2	Ao	4	..	2008ob	57	3205	38.6	+13 5	7.62	8.80	K5	2	..	38727i
8	11026	38.2	-47 29	10.3	9.5	B9	4	..	2008ob	58	3256	38.6	+ 3 2	9.5	10.7	K5	1	..	4029ob
9	11144	38.2	-48 12	11.6	10.1	A2	2	..	2008ob	59	3172	38.6	- 0 35	7.73	8.73	Ko	4	..	37801i
10	7847	38.2	-56 7	9.2	9.3	B8	4	..	19918b	60	4234	38.6	- 2 32	8.8	8.9	A2	3	..	40289b
11	2630	38.2	-69 30	8.6	9.1	F8	3	..	42473b	61	4200	38.6	-22 49	9.5	9.4	G5	4	..	40302b
12	2740	38.3	+41 32	8.1	8.7	Go	3	..	38773i	62	12805	38.6	-25 2	9.20	9.3	F8	5	..	40302b
13	2771	38.3	+33 19	7.80	8.22	F5	5	..	38412i	63	11113	38.6	-27 16	8.4	8.4	F5	7	..	40325b
14	4199	38.3	-22 20	7.55	7.9	Ao	10	..	40302b	64	11415	38.6	-33 17	8.8	10.4	K5	1	..	17050b
15	12347	38.3	-28 50	10.3	10.1	Fo	2	..	40325b	65	10960	38.6	-37 8	9.9	10.6	F5	3	..	2144ob
16	12795	38.3	-29 24	9.6	9.1	A2	3	..	40325b	66	10849	38.6	-41 6	10.1	9.7	A2	3	..	2144ob
17	12796	38.3	-29 27	9.3	9.3	Go	3	..	40325b	67	10848	38.6	-41 25	10.8	9.5	B9	3	..	2144ob
18	13422	38.3	-30 10	9.1	11.0	Ko	1	..	40325b	68	6824	38.6	-59 35	9.6	9.6	Ao	2	..	19954b
19	13179	38.3	-31 25	9.1	9.0	Ao	4	..	17050b	69	3017	38.6	-66 54	7.4	8.6	K5	6	..	42473b
20	11412	38.3	-33 36	10.3	9.3	Ao	2	..	17050b	70	891	38.7	+70 38	8.1	9.1	Ko	3	..	37752i
21	10843	38.3	-41 59	9.1	9.1	A2	4	2,2	2144ob	71	1911	38.7	+56 23	8.0	9.0	Ko	5	..	37802i
22	5433	38.3	-62 33	9.2	9.3	A2	5	..	19902b	72	3042	38.7	+15 1	8.24	9.42	K5	2	..	38727i
23	4009	38.3	-63 20	9.0	9.5	F8	2	..	19902b	73	3281	38.7	+ 6 49	9.1	9.4	Fo	3	5,2	19012b
24	3208	38.3	-67 53	9.4	10.0	Go	2	..	39343b	74	3161	38.7	+ 2 43	9.3	9.9	Go	2	..	4029ob
25	860	38.4	+69 22	7.9	8.2	Fo	7	..	37752i	75	4235	38.7	- 2 26	8.2	8.6	F5	3	..	37801i
26	1661	38.4	+58 19	8.2	8.6	F5	5	..	37802i	76	4201	38.7	-22 54	9.9	10.6	Mb	1	..	40302b
27	2855	38.4	+35 13	8.6	9.0	F5	3	..	38412i	77	12355	38.7	-28 53	9.4	11.5	Ma	1	..	40325b
28	2978	38.4	+23 52	8.1	8.9	G5	3	..	38770i	78	13184	38.7	-31 11	8.0	9.3	K5	3	..	17050b
29	2973	38.4	+21 51	8.8	9.4	Go	2	..	38775i	79	13185	38.7	-31 32	10.5	9.9	Ao	1	..	39202b
30	3040	38.4	+15 51	7.68	8.75	K2	4	..	38727i	80	10680	38.7	-40 59	10.3	10.3	Ko	2	..	2144ob
31	3278	38.4	+ 6 11	9.1	10.2	K2	2	..	19012b	81	11083	38.7	-43 27	8.1	9.4	Ko	2	R	21842b
32	4626	38.4	-17 15	8.9	10.0	K2	2	..	40615b	82	11083	38.7	-43 27	8.1	9.4	Ao	2	..	21842b
33	12348	38.4	-28 18	10.5	10.3	F8	2	..	40325b	83	10908	38.7	-45 36	10.3	9.7	Ao	2	..	2008ob
34	13426	38.4	-30 43	10.1	10.2	Ao	1	..	39202b	84	11005	38.7	-46 18	6.9	7.8	G5	7	..	2008ob
35	11413	38.4	-33 11	9.5	11.0	Ma	..	..	M	85	6892	38.7	-58 48	8.3	9.9	G5	2	..	19954b
36	11239	38.4	-34 7	9.9	9.4	B9	2	..	17050b	86	6825	38.7	-59 29	7.3	8.1	B9	10	..	19954b
37	11028	38.4	-47 59	9.7	9.4	Ao	5	..	2008ob	87	3211	38.7	-67 5	8.3	8.3	Ao	7	..	42473b
38	10483	38.4	-51 57	10.1	9.9	Ko	1	..	19926b	88	1865	38.8	+55 53	9.2	10.2	K	1	..	37802i
39	10482	38.4	-52 2	9.1	8.7	B3	5	..	19926b	89	2882	38.8	+26 2	7.44	8.44	Ko	4	..	38770i
40	7848	38.4	-56 46	8.6	10.6	K5	1	..	19954b	90	3055	38.8	+10 40	8.5	9.6	K2	4	..	19012b
41	610	38.4	-83 37	9.2	10.4	K5	1	..	43458b	91	3282	38.8	+ 6 49	7.7	8.7	Ko	4	5,2	19012b
42	1499	38.5	+62 31	8.8	9.4	G	3	E	37746i	92	3162	38.8	+ 2 22	9.1	10.1	Ko	1	..	4029ob
43	2367	38.5	+47 39	8.2	8.7	F8	4	..	37609i	93	11116	38.8	-27 8	10.5	11.5	A2	2	..	40325b
44	2770	38.5	+32 37	8.7	8.8	A5	3	..	20914i	94	12358	38.8	-28 19	5.96	6.7	A2	..	..	56,139
45	4415	38.5	-19 39	8.6	9.8	K2	1	..	40331b	95	12801	38.8	-30 2	9.6	10.5	G5	1	..	40325b
46	11645	38.5	-25 23	10.1	10.4	Fo	2	..	40302b	96	11984	38.8	-32 27	8.8	8.4	Ao	5	..	17050b
47	13429	38.5	-30 13	9.43	10.5	K2	1	..	40325b	97	11008	38.8	-46 21	6.74	6.9	A2	10	..	2008ob
48	11189	38.5	-38 37	10.5	10.6	Ko	2	..	2144ob	98	6893	38.8	-58 9	5.76	5.52	Bo	..	O, R	28,211
49	11078	38.5	-43 29	9.5	9.5	Ao	3	..	21842b	99	6636	38.8	-60 59	8.7	9.3	G5	4	..	19902b
50	10998	38.5	-46 13	8.3	8.5	Ao	5	..	2008ob	100	5780	38.8	-61 37	8.9	9.3	F5	3	..	19902b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

150900

16<sup>h</sup> 38<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3561	38.8	-64 12	8.7	9.0	Fo	4	..	19902b	51	12366	39.2	-28 54	9.3	8.9	A2	6	..	40325b
2	629	38.9	+77 50	8.4	9.2	G5	1	..	37240i	52	11093	39.2	-35 41	8.8	9.4	G5	4	..	22853b
3	2742	38.9	+41 23	7.81	8.09	Fo	6	..	38773i	53	10693	39.2	-40 21	10.1	9.7	A2	3	..	21440b
4	3043	38.9	+15 41	8.5	9.6	K2	2	..	38727i	54	10691	39.2	-41 2	8.8	9.1	Ko	1	..	19655b
5	3069	38.9	+12 36	7.26	8.33	K2	3	..	38727i	55	11514	39.2	-42 56	10.1	9.4	Ao	2	..	19655b
6	3242	38.9	+4 12	8.3	9.3	Ko	6	..	40290b	56	10917	39.2	-45 13	10.6	9.7	Ao	3	..	21842b
7	4583	38.9	-12 5	8.4	9.0	Go	4	..	40287b	57	10919	39.2	-45 35	9.5	9.4	B8	4	..	21842b
8	11649	38.9	-25 39	10.8	10.4	A3	2	..	40302b	58	11019	39.2	-46 55	7.6	7.8	Oe	9	R	21842b
9	11244	38.9	-34 26	8.6	9.4	K2	2	..	17050b	59	10801	39.2	-50 23	10.6	11.0	Ma	..	..	M
10	11033	38.9	-47 47	9.9	9.4	F5	5	..	20080b	60	4010	39.2	-63 40	8.3	8.3	Ao	7	..	19902b
11	11155	38.9	-48 55	9.7	8.7	B9	6	..	21842b	61	3217	39.2	-67 54	9.3	10.3	Ko	2	..	39343b
12	7851	38.9	-56 12	9.0	10.6	Ma	..	..	M	62	630	39.3	+77 18	8.2	8.6	F5	2	..	37240i
13	7853	38.9	-56 41	10.0	10.1	A2	1	..	19954b	63	2601	39.3	+44 11	8.4	9.5	K2	2	..	38773i
14	7852	38.9	-56 55	8.6	9.5	Go	3	..	19918b	64	2975	39.3	+21 46	9.2	9.3	A5	1	..	38775i
15	8123	38.9	-57 17	7.0	8.0	B9	7	..	19918b	65	3259	39.3	+9 12	8.0	9.0	Ko	7	R	19012b
16	3214	38.9	-67 50	9.4	10.6	K5	1	..	39343b	66	3230	39.3	+7 51	9.5	10.6	K2	1	..	19012b
17	2892	39.0	+31 51	8.6	9.7	K2	3	..	20914b	67	4239	39.3	-2 56	8.6	9.4	G5	3	..	37801i
18	2885	39.0	+26 14	8.1	9.5	Ma	2	..	38770i	68	11653	39.3	-25 11	9.55	10.3	G5	3	..	40302b
19	3031	39.0	+11 41	8.6	9.8	K5	3	..	19012b	69	11652	39.3	-25 45	9.4	11.0	K5	1	..	40302b
20	3264	39.0	+8 47	9.0	9.6	Go	2	..	19012b	70	12368	39.3	-28 39	7.40	7.2	A2	8	..	40325b
21	3228	39.0	+7 43	8.7	9.7	Ko	5	2,2	19012b	71	12808	39.3	-29 15	9.0	9.4	Ko	3	..	40325b
22	4495	39.0	-13 53	8.10	9.45	Ma	2	..	40287b	72	13439	39.3	-30 51	9.8	9.9	Go	2	..	39202b
23	11118	39.0	-27 44	10.5	9.9	Go	2	..	40325b	73	13203	39.3	-31 4	9.4	10.5	K2	1	..	39202b
24	13434	39.0	-30 37	7.00	7.9	K2	8	..	17050b	74	10696	39.3	-40 39	8.5	8.9	Ao	6	0,2	21440b
25	11989	39.0	-32 19	8.1	8.4	B9	6	..	17050b	75	11518	39.3	-42 6	9.2	10.3	Mb	2	..	21440b
26	11421	39.0	-33 40	7.24	7.8	F8	8	..	17050b	76	11516	39.3	-43 2	8.4	8.9	Ao	3	..	19655b
27	10964	39.0	-37 59	9.5	9.4	B5	5	..	21440b	77	10920	39.3	-45 27	10.6	9.7	Ao	2	..	21842b
28	10653	39.0	-39 42	8.1	9.7	K5	3	..	21440b	78	6899	39.3	-58 3	8.7	9.4	Ko	2	..	19954b
29	10687	39.0	-40 9	9.9	10.3	G5	2	..	21440b	79	4011	39.3	-63 5	9.5	10.3	G5	1	..	19902b
30	7854	39.0	-56 51	8.4	9.0	B8	5	..	19918b	80	3218	39.3	-67 37	9.3	10.5	K5	1	..	39343b
31	804	39.1	+71 49	9.0	9.4	F5	1	..	37752i	81	2310	39.3	-70 59	9.2	10.0	G5	1	..	42473b
32	2873	39.1	+28 56	9.1	10.1	Ko	1	..	20914i	82	880	39.4	+68 31	8.3	8.9	Go	3	..	37752i
33	3323	39.1	+20 55	7.10	7.60	F8	7	..	38775i	83	2976	39.4	+21 46	8.3	9.4	K2	1	..	38775i
34	3044	39.1	+15 44	8.7	9.9	K5	1	..	38727i	84	3295	39.4	+1 33	10.5	11.0	F8	2	..	40290b
35	3174	39.1	-0 22	7.38	7.38	Ao	8	..	37801i	85	11529	39.4	-26 23	10.5	10.3	A2	1	..	40325b
36	4344	39.1	-5 30	8.6	9.4	G5	4	..	39474b	86	12809	39.4	-29 7	9.1	9.7	Kop	2	R	40086b
37	4205	39.1	-23 0	6.89	7.7	F5	9	..	40302b	87	11096	39.4	-35 25	8.9	9.7	G5	3	..	22853b
38	11198	39.1	-38 9	10.5	10.6	G5	1	..	21440b	88	10662	39.4	-39 5	8.1	8.0	Ao	6	..	22853b
39	10654	39.1	-39 12	10.8	10.0	A2	2	..	21440b	89	10660	39.4	-39 34	8.8	8.6	Fo	5	..	21440b
40	11015	39.1	-46 24	9.9	9.2	Ao	5	..	20080b	90	10661	39.4	-39 36	8.5	8.2	A2	5	..	22853b
41	10197	39.1	-52 12	9.1	9.6	K2	1	..	19895b	91	10855	39.4	-41 4	9.5	9.1	B8	2	..	19655b
42	6828	39.1	-59 43	8.6	9.6	G5	3	..	19954b	92	10498	39.4	-51 24	8.4	8.7	A2	7	..	19926b
43	3216	39.1	-67 29	8.9	9.0	A3	4	..	42473b	93	10201	39.4	-52 47	9.6	9.6	Ao	2	..	19926b
44	1746	39.2	+59 14	8.4	9.0	Go	3	..	37802i	94	5438	39.4	-62 26	9.6	10.4	G5	2	..	19902b
45	3122	39.2	+25 20	8.3	8.7	F5	2	..	38770i	95	1759	39.4	-73 33	6.96	6.4	Ao	9	..	20270b
46	2981	39.2	+23 22	8.8	9.3	F8	2	..	38775i	96	533	39.4	-84 30	8.7	9.3	Go	5	..	43458b
47	3324	39.2	+20 53	8.5	8.5	Ao	4	..	38775i	97	3029	39.5	+39 7	3.61	4.61	Ko	..	R	3871c
48	3229	39.2	+7 2	9.1	10.2	K2	1	..	19012b	98	2772	39.5	+36 42	6.90	7.97	K2	5	..	38412i
49	3285	39.2	+6 52	9.3	9.8	F8	4	..	19012b	99	3325	39.5	+20 2	8.40	8.90	F8	2	..	38775i
50	11523	39.2	-26 43	10.3	10.4	K2	1	..	40325b	100	3233	39.5	+7 31	8.5	9.6	K2	5	3,1	19012b

## THE HENRY DRAPER CATALOGUE.

151000

16<sup>h</sup> 39<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11655	39.5	-25 31	10.3	9.2	Fo	5	..	40302b	51	10863	39.8	-41 18	7.5	8.5	Ma	3	..	19655b
2	10971	39.5	-37 18	10.3	11.4	Ko	1	..	21440b	52	10807	39.8	-50 45	9.9	9.6	A2	2	..	19895b
3	10856	39.5	-41 26	7.1	7.5	B1	..	1,4	56,139	53	10210	39.8	-52 47	9.0	9.0	F8	3	..	19926b
4	11043	39.5	-47 36	10.6	9.5	Ao	3	..	21842b	54	6831	39.8	-59 12	8.8	9.3	Ao	3	..	19954b
5	5784	39.5	-61 19	7.2	8.7	Ko	8	..	19902b	55	3220	39.8	-67 36	var.	var.	Nb	2	R	42473b
6	2875	39.6	+29 9	8.9	9.4	F8	2	..	20914i	56	2429	39.9	+48 35	8.3	9.7	Ma	2	..	37609i
7	4346	39.6	-5 7	9.55	9.63	A3	4	..	39474b	57	2603	39.9	+44 7	9.0	9.8	G5	2	..	38773i
8	4494	39.6	-6 55	8.8	9.6	G5	5	..	40597b	58	2774	39.9	+32 53	7.8	8.8	Ko	5	..	38412i
9	4587	39.6	-12 18	8.8	9.9	K2	2	..	40287b	59	3264	39.9	+9 42	8.1	8.7	Go	3	5.7	9606b
10	4321	39.6	-18 18	9.5	9.8	Fo	3	..	40331b	60	3245	39.9	+4 23	9.0	10.1	K2	2	3.1	40290b
11	4320	39.6	-18 57	6.89	8.07	K5	6	..	40331b	61	4242	39.9	-2 54	7.25	8.60	Mb	4	..	37801i
12	11533	39.6	-26 28	6.85	7.3	Ao	9	..	40302b	62	4383	39.9	-10 29	8.26	9.26	Ko	6	..	39477b
13	13205	39.6	-31 11	10.1	10.2	Go	1	..	39202b	63	10712	39.9	-40 42	8.8	8.9	Ao	7	0.3	21440b
14	13208	39.6	-31 20	9.1	9.9	K5	1	..	17050b	64	11168	39.9	-48 31	10.3	9.6	B9	4	..	21842b
15	13206	39.6	-31 36	9.6	9.9	F8	1	..	39202b	65	6642	39.9	-60 57	9.0	9.3	Ao	2	..	19902b
16	10665	39.6	-39 26	8.8	9.4	Ko	4	..	21440b	66	5787	39.9	-61 13	7.7	7.7	Ao	9	..	19902b
17	10925	39.6	-45 23	11.0	10.2	Ao	1	..	21842b	67	1501	40.0	+62 30	7.24	7.19	B8	8	1.7	37746i
18	10927	39.6	-45 42	8.9	9.2	B2	3	..	21842b	68	2740	40.0	+42 29	8.8	9.9	K2	1	..	38773i
19	11164	39.6	-48 45	9.5	9.6	Go	3	..	21842b	69	2605	40.0	+28 25	8.9	9.0	A3	2	..	38770i
20	2311	39.6	-70 26	8.5	8.5	Ao	7	..	42473b	70	2984	40.0	+23 42	6.76	7.10	F2	7	..	38770i
21	1573	39.6	-74 39	8.0	8.4	F5	7	..	42633b	71	3227	40.0	+18 45	8.0	9.0	Ko	2	..	38775i
22	2372	39.7	+47 15	9.0	10.0	K	2	..	37609i	72	3207	40.0	+13 48	7.9	7.9	Ao	3	..	38727i
23	2792	39.7	+37 14	8.5	9.5	Ko	2	..	38412i	73	11660	40.0	-25 17	10.3	10.7	G5	1	..	40302b
24	2889	39.7	+26 26	8.5	9.0	F8	2	..	38770i	74	12384	40.0	-28 59	9.8	9.8	A3	4	..	40325b
25	3262	39.7	+9 9	8.5	8.9	F5	7	3,2	19012b	75	11437	40.0	-33 11	11.0	10.2	A2	2	..	39202b
26	3262	39.7	+5 23	9.1	9.6	F8	4	..	19012b	76	11100	40.0	-35 37	8.8	9.2	F2	4	..	22853b
27	3263	39.7	+5 6	8.5	9.5	Ko	6	..	19012b	77	10956	40.0	-36 41	9.2	9.8	Go	4	..	21440b
28	3244	39.7	+4 41	9.15	10.22	K2	1	..	19012b	78	10677	40.0	-39 12	5.52	7.4	Ko	..	0.6-	56,139
29	3166	39.7	+2 32	8.0	8.1	A2	5	..	37801i	79	11106	40.0	-43 15	9.3	9.7	A2	2	..	21842b
30	3175	39.7	-0 9	9.23	9.79	G	2	..	37801i	80	11105	40.0	-43 48	10.3	10.0	Ao	2	..	21842b
31	3987	39.7	-3 34	10.3	10.3	Ao	2	..	39474b	81	10936	40.0	-45 19	9.9	9.4	B9	3	..	21842b
32	4444	39.7	-9 21	9.5	10.3	G5	1	..	40607b	82	11169	40.0	-48 8	7.34	8.1	K5	6	..	21842b
33	11657	39.7	-25 30	10.8	9.9	F8	2	..	40302b	83	10503	40.0	-51 35	9.3	9.0	B3	3	..	19926b
34	11128	39.7	-27 41	9.8	9.8	Go	3	..	40325b	84	733	40.1	+73 31	8.2	9.0	G5	3	..	37752i
35	12377	39.7	-29 1	7.84	8.7	Ko	7	..	40325b	85	1698	40.1	+57 22	8.4	9.2	G5	4	..	37802i
36	13443	39.7	-30 58	10.8	10.5	A2	2	..	39202b	86	2773	40.1	+36 34	8.7	9.8	K2	1	..	38412i
37	10973	39.7	-37 33	10.1	10.6	G5	3	..	21440b	87	2830	40.1	+34 13	5.90	6.24	F2	9	..	38412i
38	10667	39.7	-39 5	9.5	10.0	G5	2	..	21440b	88	3058	40.1	+10 9	7.87	9.05	K5	4	0.1	19012b
39	10707	39.7	-40 58	8.8	8.5	B5	4	..	19655b	89	3287	40.1	+6 45	9.8	9.8	B9	4	..	19012b
40	10931	39.7	-45 59	10.3	10.2	Ao	2	..	21842b	90	3288	40.1	+6 17	6.71	7.49	G5	5	..	9606b
41	8176	39.7	-53 28	8.3	8.3	B9	7	..	19926b	91	3177	40.1	-0 49	8.1	8.9	G5	4	..	37801i
42	6440	39.7	-60 8	9.2	10.7	Mb	..	..	M	92	4384	40.1	-10 44	8.4	9.5	K2	4	..	39477b
43	562	39.8	+77 57	6.92	7.42	F8	6	..	37240i	93	11138	40.1	-27 8	9.6	10.3	Ko	1	..	40325b
44	2319	39.8	+50 9	6.64	7.06	F5	9	..	37609i	94	12825	40.1	-29 41	10.3	11.0	G5	1	..	40325b
45	3010	39.8	+22 34	8.1	9.2	K2	2	..	38775i	95	11439	40.1	-34 1	10.1	10.4	A2	2	..	39202b
46	3176	39.8	-0 25	7.9	9.1	K5	3	..	37801i	96	10714	40.1	-40 46	10.1	9.7	Fo	3	..	21440b
47	4343	39.8	-16 16	9.0	9.0	Ao	4	..	40331b	97	11052	40.1	-47 25	7.6	8.2	Go	8	..	21842b
48	11536	39.8	-27 2	10.3	10.9	Go	3	..	40325b	98	6903	40.1	-58 28	9.0	10.4	Ko	1	..	19954b
49	12001	39.8	-32 38	10.5	10.2	A2	2	..	39202b	99	3019	40.1	-66 51	7.8	7.8	Ao	8	..	42473b
50	11205	39.8	-39 1	10.5	10.0	F5	2	..	21440b	100	3222	40.1	-67 38	8.8	9.8	Ko	2	..	39343b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

151100

16<sup>h</sup> 40<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	1145	40.2	+64 47	5.00	6.00	Ko	..	R	56,94	51	11542	40.5	-26 5	9.4	9.9	Ko	1	..	40302b
2	3267	40.2	+7 59	9.1	10.1	Ko	3	..	19012b	52	12389	40.5	-28 44	8.6	8.9	Ko	6	..	40325b
3	3237	40.2	+7 0	9.8	10.6	G5	2	..	19012b	53	12833	40.5	-29 43	10.5	10.5	A2	1	..	40325b
4	3169	40.2	+2 29	9.1	9.7	Go	4	..	40290b	54	13224	40.5	-31 16	7.59	8.1	Ao	7	..	17050b
5	3988	40.2	-3 51	8.7	9.8	K2	2	..	39474b	55	11258	40.5	-34 18	10.3	10.1	A2	1	..	39202b
6	4591	40.2	-12 11	8.7	8.8	A2	3	..	40287b	56	11260	40.5	-34 23	10.1	10.1	Ao	2	..	39202b
7	13450	40.2	-30 5	9.8	9.7	A2	1	..	40325b	57	11259	40.5	-34 57	9.48	9.8	Ao	3	..	22853b
8	12008	40.2	-32 46	8.01	7.9	Ao	8	..	17050b	58	11540	40.5	-42 42	8.1	8.2	B8	6	3,5	21440b
9	10684	40.2	-39 21	6.90	7.2	B9	..	0,5-	56,139	59	10943	40.5	-45 33	9.2	9.1	Ao	4	..	21842b
10	10687	40.2	-39 24	8.5	8.3	Ao	5	..	22853b	60	11031	40.5	-46 4	10.3	9.5	Ao	3	..	21842b
11	10873	40.2	-41 27	8.1	8.2	A2	5	..	19655b	61	10972	40.5	-49 40	8.4	8.7	Ao	6	..	21842b
12	11123	40.2	-44 32	8.3	9.5	K5	2	..	21842b	62	7693	40.5	-55 14	8.6	9.0	Ao	..	..	19926b
13	10941	40.2	-45 17	7.86	7.9	B8	7	..	21842b	63	7694	40.5	-55 15	8.3	9.6	K	4	..	19926b
14	11053	40.2	-47 4	9.7	9.1	B9	7	..	21842b	64	7859	40.5	-56 25	9.5	9.5	Ao	3	..	19918b
15	11174	40.2	-48 10	8.1	8.7	A2	..	..	20080b	65	1699	40.6	+57 45	9.1	10.1	K	1	..	37802i
16	11172	40.2	-48 11	8.1	7.9	A2	5	R	20080b	66	2776	40.6	+32 20	8.8	10.0	K5	1	..	20914i
17	10214	40.2	-52 54	8.6	8.1	F5	6	..	19926b	67	3289	40.6	+6 53	8.9	9.2	Fo	6	2,1	19012b
18	6835	40.2	-59 11	8.7	10.4	K2	1	..	19954b	68	3178	40.6	-0 36	7.9	8.4	F8	5	..	37801i
19	819	40.2	-80 49	9.6	10.0	F5	3	..	43458b	69	3243	40.6	-1 5	8.9	9.5	Go	2	..	37801i
20	2741	40.3	+42 48	8.2	8.5	Fo	4	..	38773i	70	12394	40.6	-28 4	10.8	9.2	Ao	4	..	40086b
21	3048	40.3	+23 59	neb.	neb.	Pe	..	R	76,22	71	13463	40.6	-30 48	7.9	9.9	K5	2	..	17050b
22	3081	40.3	+17 14	8.3	9.3	Ko	2	..	38775i	72	11445	40.6	-33 6	10.5	10.8	Go	1	..	39202b
23	3242	40.3	-1 24	8.7	9.7	Ko	2	..	39474b	73	10946	40.6	-45 13	7.43	7.4	B8	9	..	21842b
24	4344	40.3	-16 43	8.7	9.9	K5	2	..	40615b	74	11177	40.6	-48 37	11.0	9.9	A2	2	..	21842b
25	11540	40.3	-26 8	9.8	9.8	Ao	2	..	40302b	75	6837	40.6	-59 19	9.0	9.4	Ao	2	..	19954b
26	11140	40.3	-27 18	8.1	8.6	A2	7	..	40086b	76	821	40.6	-80 50	9.9	10.0	A3	3	..	43458b
27	12387	40.3	-28 21	10.5	9.8	A2	3	..	40086b	77	3238	40.7	+7 9	9.5	10.5	Ko	1	..	19012b
28	13452	40.3	-30 26	9.1	11.0	K5	1	..	39202b	78	12821	40.7	-24 41	9.4	10.3	Ko	3	..	40302b
29	11208	40.3	-38 16	9.7	10.2	Ao	3	..	21440b	79	11667	40.7	-25 21	6.57	8.0	Ko	7	..	40302b
30	10717	40.3	-40 23	9.5	9.4	Ao	5	..	21440b	80	10697	40.7	-39 12	9.1	9.1	A2	3	..	22853b
31	11029	40.3	-46 26	10.3	9.4	B8	3	..	21842b	81	10726	40.7	-40 36	9.5	9.2	Ao	2	..	19655b
32	820	40.3	-80 17	9.9	10.0	A3	2	..	43458b	82	11543	40.7	-42 15	10.6	10.0	Ao	3	..	21440b
33	3298	40.4	+1 12	5.99	5.97	B9	10	..	37801i	83	11112	40.7	-43 46	7.9	8.2	Ao	7	0,8	19655b
34	3574	40.4	+0 16	8.9	10.0	K2	2	..	37801i	84	7850	40.7	-54 21	8.6	9.9	Ma	1	..	19926b
35	4305	40.4	-8 17	8.8	9.2	F5	4	..	40597b	85	5445	40.7	-62 13	8.9	9.9	Ko	3	..	19902b
36	12913	40.4	-23 17	9.8	9.4	Ao	3	..	40302b	86	962	40.8	+67 9	8.05	9.12	K2	2	..	37752i
37	11444	40.4	-33 56	10.8	11.0	A2	1	..	39202b	87	1870	40.8	+55 7	var.	var.	Mc	..	R	M
38	10718	40.4	-40 41	11.0	10.3	A2	2	..	21440b	88	2639	40.8	+43 41	8.3	9.5	K5	2	..	38773i
39	10875	40.4	-41 38	7.5	7.8	B2	6	..	19655b	89	2742	40.8	+42 41	8.6	9.2	Go	4	..	38773i
40	11056	40.4	-47 3	10.3	9.1	B8	5	..	21842b	90	3268	40.8	+8 15	9.1	9.7	Go	3	..	19012b
41	5443	40.4	-62 54	9.5	9.5	Ao	2	..	19902b	91	3265	40.8	+3 4	9.8	9.9	A2	2	..	40290b
42	4015	40.4	-63 39	9.2	9.3	A5	3	..	19902b	92	4631	40.8	-17 24	8.4	9.0	Go	5	..	40331b
43	3224	40.4	-67 11	8.3	9.3	Ko	4	..	42473b	93	4632	40.8	-17 32	9.5	9.6	A5	2	..	40331b
44	2827	40.5	+38 41	9.2	9.6	F5	3	..	38773i	94	4324	40.8	-18 36	9.2	9.8	Go	3	..	40331b
45	2775	40.5	+32 1	9.1	10.3	K5	1	..	20914i	95	12836	40.8	-29 24	8.0	8.4	Ko	6	..	40325b
46	3208	40.5	+13 48	8.7	8.8	A3	3	..	38727i	96	10951	40.8	-45 46	6.87	7.4	F2	10	..	21842b
47	3265	40.5	+5 49	10.5	10.5	Ao	2	..	19012b	97	6904	40.8	-58 11	9.4	9.9	F8	1	..	19954b
48	4630	40.5	-17 10	8.8	9.4	Go	4	..	40331b	98	6839	40.8	-59 35	8.5	8.7	A2	6	..	19954b
49	4207	40.5	-22 8	9.5	9.8	F5	2	..	40302b	99	1872	40.9	+55 53	6.18	6.24	A2p	..	0, R	56,94
50	4208	40.5	-22 27	8.0	7.9	F5	7	..	40302b	100	2743	40.9	+42 54	8.8	9.6	G5	2	..	38773i

## THE HENRY DRAPER CATALOGUE.

151200

16<sup>h</sup> 40<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2745	40.9	+41 52	8.8	9.4	Go	2	..	38773i	51	2081	41.1	-71 20	9.7	9.7	Ao	2	..	42473b
2	2990	40.9	+23 55	7.32	8.32	Ko	5	..	38770i	52	1147	41.2	+64 0	8.9	9.7	G5	4	..	37746i
3	3013	40.9	+15 56	5.78	7.13	Mb	6	..	38775i	53	2828	41.2	+38 49	8.7	9.5	G5	2	..	38773i
4	3081	40.9	+12 19	var.	var.	Md	..	R	M	54	2864	41.2	+35 54	8.9	9.7	G5	4	..	38412i
5	3268	40.9	+9 26	9.5	10.0	F8	1	..	19012b	55	2779	41.2	+32 28	9.1	10.3	K5	1	..	20914i
6	3249	40.9	+4 21	9.1	10.1	Ko	1	0,1	19012b	56	3050	41.2	+24 46	8.31	9.38	K2	2	..	38770i
7	3300	40.9	+1 10	8.9	9.7	G5	3	..	37801i	57	3179	41.2	-0 38	9.1	10.1	Ko	1	..	39474b
8	3991	40.9	-3 12	9.9	10.9	Ko	1	..	39474b	58	3244	41.2	-1 10	8.5	9.0	F8	6	..	37801i
9	4347	40.9	-16 42	9.5	10.1	G	3	..	40615b	59	12920	41.2	-23 33	9.8	10.6	K2	1	..	40302b
10	11263	40.9	-34 44	10.5	10.1	Fo	2	..	39202b	60	11555	41.2	-27 1	10.1	9.8	F8	1	0,1	40441b
11	10729	40.9	-40 47	8.1	8.0	F5	5	..	19655b	61	11155	41.2	-27 39	10.8	10.1	F5	2	..	40325b
12	10727	40.9	-40 58	9.5	8.8	B2	3	..	19655b	62	13236	41.2	-31 41	9.0	8.7	Ao	4	..	17050b
13	11061	40.9	-47 6	7.9	7.9	B2	8	..	21842b	63	11042	41.2	-46 9	9.3	8.5	Ao	5	..	21842b
14	2636	40.9	-69 25	8.7	8.8	A2	5	..	42473b	64	11064	41.2	-47 30	11.0	9.7	A2	2	..	21842b
15	611	40.9	-83 50	8.7	9.7	Ko	1	..	43458b	65	5449	41.2	-62 14	9.2	9.3	A5	3	..	19902b
16	2775	41.0	+33 30	9.1	10.2	K2	1	..	20914i	66	3023	41.2	-66 35	9.3	9.3	Ao	2	..	42473b
17	3271	41.0	+8 46	5.38	6.45	K2	7	2,R	9606b	67	2130	41.3	+51 44	7.63	8.05	F5	6	..	37609i
18	3240	41.0	+7 25	9.5	10.5	Ko	1	..	19012b	68	2899	41.3	+31 51	8.6	9.2	Go	2	..	20914i
19	3250	41.0	+4 13	7.10	7.44	F2	8	..	40290b	69	3253	41.3	+4 1	7.9	8.7	G5	5	..	19012b
20	3266	41.0	+2 58	9.3	10.4	K2	1	..	40290b	70	3170	41.3	+2 1	9.5	10.0	F8	3	..	40290b
21	4307	41.0	-8 51	9.5	10.0	F8	2	..	40597b	71	12826	41.3	-24 21	9.4	9.5	Go	4	..	40302b
22	4425	41.0	-19 55	7.63	8.6	Ko	7	..	40302b	72	11557	41.3	-26 43	9.1	10.4	K5	2	..	40086b
23	12403	41.0	-28 7	11.0	9.8	A2	2	..	40086b	73	12025	41.3	-33 1	9.5	9.6	G5	2	..	17050b
24	11449	41.0	-34 2	9.4	9.9	G5	3	..	39202b	74	11452	41.3	-33 55	9.7	9.9	B9	3	..	39202b
25	11264	41.0	-34 59	9.53	10.4	G5	1	..	39202b	75	11216	41.3	-38 40	10.8	9.7	Ao	4	..	21440b
26	11105	41.0	-35 52	9.2	9.8	A2	3	..	22853b	76	10739	41.3	-40 19	9.5	9.5	Ao	4	..	21440b
27	11140	41.0	-44 45	8.0	9.4	K2	4	..	21842b	77	10741	41.3	-40 33	11.2	10.0	Ao	2	..	21440b
28	10957	41.0	-46 0	11.6	9.4	Ao	3	..	21842b	78	10981	41.3	-49 15	9.9	9.6	Ao	2	..	21842b
29	10822	41.0	-51 2	10.3	9.6	A5	1	..	19926b	79	10236	41.3	-52 44	9.0	10.4	Ma	..	..	M
30	10223	41.0	-52 18	8.8	9.6	K2	1	..	19926b	80	7867	41.3	-56 7	9.0	9.2	Ao	4	..	19918b
31	10224	41.0	-52 46	7.04	7.1	B8	7	1,7	36326b	81	7866	41.3	-56 38	8.4	10.1	F5	2	..	19954b
32	7695	41.0	-55 21	9.2	9.3	A3	3	..	19954b	82	3229	41.3	-67 23	8.2	9.0	G5	4	..	42473b
33	908	41.0	-79 54	7.94	7.8	Ao	8	..	43458b	83	3228	41.3	-67 53	9.1	9.1	Ao	6	..	42473b
34	894	41.1	+70 26	8.0	8.1	A2	5	..	37752i	84	1997	41.3	-73 1	9.0	9.1	A3	2	..	20270b
35	2207	41.1	+46 31	8.2	8.3	A2	3	..	37609i	85	147	41.3	-88 52	8.1	9.1	Ko	6	..	22980b
36	2876	41.1	+29 39	8.7	9.1	F5	3	..	20914i	86	895	41.4	+70 46	8.2	9.0	G5	3	..	37752i
37	2607	41.1	+28 32	7.09	7.51	F5	6	..	38770i	87	2209	41.4	+46 26	8.0	8.0	B9	4	..	37609i
38	4504	41.1	-13 9	7.7	7.8	A2	5	..	40287b	88	2777	41.4	+33 40	8.6	9.8	K5	3	..	20914i
39	11451	41.1	-33 17	10.1	11.0	Ko	1	..	39202b	89	2894	41.4	+26 47	8.6	9.1	F8	3	..	38770i
40	11450	41.1	-33 31	7.83	7.8	F5	7	..	17050b	90	3036	41.4	+11 7	9.5	9.6	A2	3	..	19012b
41	10703	41.1	-39 47	7.7	7.5	Ao	2	0,8	43871b	91	3243	41.4	+7 33	9.1	9.2	A3	7	7,2 R	19012b
42	10731	41.1	-40 10	11.0	9.5	B8	4	..	21440b	92	3266	41.4	+5 4	9.01	10.01	Ko	3	..	19012b
43	10737	41.1	-40 23	10.1	10.6	K2	2	..	21440b	93	3181	41.4	-0 35	9.5	9.8	F2	3	..	39474b
44	10734	41.1	-40 29	11.0	10.0	B9	2	..	21440b	94	4388	41.4	-10 57	8.6	8.7	A2	5	..	39477b
45	11040	41.1	-46 44	9.5	9.7	Ko	3	..	21842b	95	4209	41.4	-11 26	9.0	9.8	G5	1	..	39477b
46	11188	41.1	-48 53	9.9	9.6	F5	2	..	21842b	96	11676	41.4	-25 9	9.6	10.3	Ko	2	..	40302b
47	10512	41.1	-51 8	9.1	9.6	Ko	2	..	19926b	97	12845	41.4	-29 6	9.8	9.9	Ko	2	2,1	40325b
48	8132	41.1	-57 17	10.1	10.1	Ao	2	..	19954b	98	11217	41.4	-38 4	10.5	10.5	F5	2	..	21440b
49	6906	41.1	-58 52	3.68	6.0	K5	..	0,R	28,211	99	10711	41.4	-39 37	8.9	9.1	Ao	5	..	21440b
50	3563	41.1	-64 20	8.2	9.3	K2	4	..	19902b	100	11044	41.4	-47 0	10.6	9.1	Bo	2	..	21842b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

151300

16<sup>h</sup> 41<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	7855	41.4	-54 16	8.7	9.2	A3	7	..	19926b	51	6909	41.7	-58 42	9.2	9.1	A2	5	..	19954b
2	8134	41.4	-57 25	8.4	9.5	F5	4	..	19918b	52	2433	41.8	+48 26	7.76	8.94	K5	3	..	3760gi
3	1577	41.4	-74 20	8.8	8.8	Ao	3	..	20270b	53	3057	41.8	+40 49	7.9	7.9	Ao	7	..	38773i
4	2680	41.5	+27 19	8.3	8.4	A3	4	..	38770i	54	3236	41.8	+18 2	8.3	9.7	Ma	1	..	38775i
5	3047	41.5	+15 32	8.4	9.5	K2	2	..	38727i	55	3173	41.8	+2 24	9.1	9.1	B8	3	..	3780ri
6	3038	41.5	+11 39	9.1	9.9	G5	3	..	19012b	56	..	41.8	+1 11	..	..	Ao	2	..	40290b
7	4246	41.5	-3 1	8.0	8.3	Fo	6	5.4	39474b	57	4497	41.8	-6 47	8.3	9.3	Ko	5	..	40597b
8	4389	41.5	-15 30	8.9	9.0	A2	3	..	40331b	58	4484	41.8	-14 27	9.0	9.0	Ao	3	..	39477b
9	4412	41.5	-21 36	9.5	9.8	A2	3	..	40302b	59	13242	41.8	-31 25	9.6	9.4	Ao	3	..	39202b
10	4414	41.5	-21 59	9.2	8.8	B8	5	..	40302b	60	13243	41.8	-31 41	9.6	10.2	Go	1	..	39202b
11	12850	41.5	-29 33	10.8	9.9	Ao	1	..	40325b	61	10992	41.8	-37 52	10.1	10.9	Ko	1	..	21440b
12	12847	41.5	-29 45	8.6	9.0	Go	5	..	40325b	62	10749	41.8	-40 9	11.0	10.0	Ao	2	..	21440b
13	12027	41.5	-32 53	8.8	10.4	K5	1	..	17050b	63	10987	41.8	-49 49	7.7	7.7	B9	9	..	21842b
14	10970	41.5	-36 37	9.7	10.0	G5	3	..	22853b	64	10243	41.8	-52 47	9.1	9.9	G5	1	..	19895b
15	10972	41.5	-36 42	7.24	7.4	A5	8	..	22853b	65	2832	41.8	-68 22	9.1	10.3	K5	1	..	39343b
16	10973	41.5	-36 43	9.5	8.4	A	3	..	22853b	66	2833	41.9	+38 32	8.9	9.7	G5	1	..	38773i
17	11046	41.5	-46 13	8.0	8.2	F8	7	..	21842b	67	2871	41.9	+30 11	8.7	9.5	G5	4	..	20914i
18	11194	41.5	-48 7	8.3	7.8	B8	7	..	21842b	68	2872	41.9	+30 9	9.4	10.2	G5	2	..	20914i
19	7869	41.5	-56 4	8.6	9.0	Ao	6	..	19918b	69	2896	41.9	+26 13	8.3	9.1	G5	3	..	38770i
20	6651	41.5	-60 6	9.2	10.5	Mb	..	..	M	70	3065	41.9	+10 0	9.27	9.27	Ao	4	0.2	19012b
21	3565	41.5	-64 31	8.7	8.7	Ao	2	..	13775b	71	3268	41.9	+3 33	10.1	10.4	Fo	2	..	40290b
22	2314	41.5	-70 56	9.6	9.7	A2	2	..	42473b	72	3174	41.9	+2 25	6.74	7.02	Fo	8	..	3780ri
23	2082	41.5	-71 40	8.4	9.4	Ko	4	..	42473b	73	3302	41.9	+1 9	9.8	10.9	K2	2	..	40290b
24	909	41.5	-79 33	8.8	10.0	K5	3	..	43458b	74	3577	41.9	+0 54	9.3	9.8	F8	4	..	40290b
25	696	41.5	-82 36	9.0	9.1	A2	5	..	43458b	75	4248	41.9	-2 55	9.0	9.0	Ao	4	..	39474b
26	335	41.5	-86 40	9.9	10.9	Ko	2	..	22578b	76	4427	41.9	-19 41	8.8	9.2	F2	5	..	40302b
27	1994	41.6	+52 6	8.2	9.2	Ko	2	..	3760gi	77	12833	41.9	-24 33	10.5	10.6	A2	2	..	40302b
28	2681	41.6	+27 22	8.8	10.0	K5	1	..	38770i	78	13477	41.9	-30 54	10.8	9.9	Ao	2	..	39202b
29	3154	41.6	+19 50	8.15	8.71	Go	3	..	38775i	79	10994	41.9	-37 4	7.32	7.0	F5	7	..	22853b
30	3273	41.6	+8 22	9.1	10.1	Ko	2	..	19012b	80	11220	41.9	-38 8	10.8	10.9	Ko	1	..	21440b
31	3172	41.6	+2 30	8.1	8.9	G5	3	..	3780ri	81	11222	41.9	-38 20	10.5	10.6	F8	2	..	21440b
32	4351	41.6	-7 39	9.5	10.0	F8	2	..	40609b	82	11221	41.9	-38 51	10.3	10.0	B9	3	..	21440b
33	12829	41.6	-24 50	9.8	10.7	K2	2	..	40302b	83	10717	41.9	-39 22	11.0	10.2	Go	2	..	21440b
34	11680	41.6	-26 0	9.6	10.7	Ko	1	..	40302b	84	10718	41.9	-40 1	9.48	9.4	F5	4	..	21440b
35	10713	41.6	-39 26	9.1	8.8	Ao	4	..	22853b	85	11069	41.9	-47 31	9.7	8.8	B9	5	..	21842b
36	10746	41.6	-40 30	8.8	8.5	Fo	4	..	19655b	86	5451	41.9	-62 47	8.3	8.4	A5	6	..	19902b
37	11068	41.6	-47 33	7.5	8.2	G5	8	..	21842b	87	2326	42.0	+50 5	7.32	7.60	Fo	8	..	3760gi
38	6841	41.6	-59 23	9.7	9.7	Ao	1	..	19954b	88	2642	42.0	+43 24	6.07	7.14	K2	7	0.8	38773i
39	4019	41.6	-63 8	8.9	8.9	Ao	5	..	19902b	89	3275	42.0	+8 33	9.5	10.1	Go	2	..	19012b
40	508	41.7	+79 25	7.71	8.05	F2	4	..	37240i	90	3303	42.0	+1 54	9.5	10.1	Go	1	..	40290b
41	564	41.7	+78 9	8.8	9.1	F	1	..	37240i	91	3578	42.0	+0 37	9.8	10.3	F8	1	..	40290b
42	3064	41.7	+10 44	9.5	10.1	G	2	..	19012b	92	3245	42.0	-1 47	Cl.	Cl.	Con.	3	R	3780ri
43	3244	41.7	+7 50	8.9	9.9	Ko	5	..	19012b	93	4350	42.0	-6 3	8.8	8.8	Ao	6	..	40597b
44	..	41.7	+2 4	..	..	G5	1	..	40290b	94	12419	42.0	-28 35	10.8	10.6	G5	1	..	40086b
45	4506	41.7	-13 39	9.2	9.2	A	3	R	39477b	95	13483	42.0	-31 2	6.86	6.8	B8	10	..	39202b
46	12923	41.7	-23 48	7.9	7.9	B8	7	..	40302b	96	10995	42.0	-37 54	7.9	8.9	Ko	5	..	22853b
47	12413	41.7	-28 12	8.0	8.3	Fo	5	..	40086b	97	10720	42.0	-39 36	9.4	9.4	B2	3	..	21440b
48	12412	41.7	-28 47	7.8	8.1	F8	5	..	40086b	98	10752	42.0	-40 35	8.5	8.3	Fo	5	..	19655b
49	10991	41.7	-38 1	10.5	10.7	Ko	1	..	21440b	99	10753	42.0	-40 55	8.8	10.0	K5	1	..	19655b
50	10986	41.7	-49 24	9.5	10.5	Ma	..	..	M	100	11199	42.0	-48 17	9.0	8.7	B9	5	..	21842b



## THE HENRY DRAPER CATALOGUE.

151400

16<sup>h</sup> 42<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10990	42.0	-49 13	8.9	9.6	K2	2	..	21842b	51	4561	42.3	-20 46	8.7	8.6	F8	7	..	40302b
2	10245	42.0	-52 52	9.5	9.3	B3	2	..	19895b	52	4418	42.3	-21 15	9.5	10.3	K5	2	..	40302b
3	7858	42.0	-54 19	8.8	8.9	Ao	6	..	19926b	53	12426	42.3	-28 15	11.0	10.3	Ko	2	..	40086b
4	3232	42.0	-67 31	6.35	7.7	Ko	..	0.9	56,139	54	13488	42.3	-30 21	9.0	9.9	Ko	2	..	39202b
5	2084	42.0	-71 7	8.6	10.0	Ma	2	..	42473b	55	11276	42.3	-34 41	9.2	10.4	G5	2	..	39202b
6	1700	42.1	+57 49	8.4	8.7	Fo	3	..	37802i	56	11274	42.3	-34 54	9.9	10.4	A3	1	..	39202b
7	2610	42.1	+44 18	8.4	9.4	Ko	3	..	37609i	57	10758	42.3	-40 4	10.8	11.2	A2	2	..	21440b
8	3037	42.1	+39 35	8.1	9.1	Ko	3	..	38773i	58	10757	42.3	-40 38	10.1	10.1	B2	3	..	21440b
9	3330	42.1	+20 12	8.1	9.1	Ko	3	..	38775i	59	7704	42.3	-55 42	9.0	9.2	A2	6	..	19954b
10	3269	42.1	+ 8 57	9.5	10.6	K2	1	..	19012b	60	7874	42.3	-56 14	9.0	9.2	B9	3	..	19918b
11	3256	42.1	+ 4 37	10.5	10.5	Ao	1	..	19012b	61	6911	42.3	-58 17	8.6	8.4	B9	6	..	19918b
12	4499	42.1	- 6 9	8.7	9.2	F8	5	..	40597b	62	1607	42.4	+61 1	8.8	10.2	Ma	..	..	M
13	4390	42.1	-10 21	9.0	9.4	F5	3	..	39477b	63	2133	42.4	+51 35	8.6	8.9	F2	3	..	37609i
14	4214	42.1	-22 17	10.9	10.9	K	1	..	40302b	64	2985	42.4	+21 2	8.9	9.7	G5	2	..	38775i
15	12834	42.1	-24 21	7.48	8.6	K5	7	..	40302b	65	3176	42.4	+ 2 21	8.4	8.8	F5	5	..	37801i
16	11685	42.1	-25 54	9.6	9.8	F5	3	..	40302b	66	3304	42.4	+ 1 38	9.0	9.5	F8	4	..	37801i
17	12420	42.1	-28 35	10.3	9.9	A2	1	..	40086b	67	4315	42.4	- 9 0	9.5	9.6	A3	3	..	40597b
18	13487	42.1	-30 11	8.38	8.1	Ao	7	..	39202b	68	4562	42.4	-20 59	10.1	10.3	Ao	2	..	40302b
19	13486	42.1	-30 17	10.3	9.3	Ao	3	..	39202b	69	13255	42.4	-31 44	9.6	9.4	Go	3	..	39202b
20	12038	42.1	-32 45	10.1	9.7	Ao	2	..	39202b	70	11465	42.4	-33 33	8.1	8.7	A5	4	..	22853b
21	10915	42.1	-41 47	10.1	9.4	A	1	..	19655b	71	11463	42.4	-33 45	8.1	8.7	A3	4	..	22853b
22	11051	42.1	-47 1	10.6	9.7	Ao	3	..	21842b	72	10983	42.4	-36 21	9.5	9.2	F8	5	..	22853b
23	7871	42.1	-56 30	8.6	9.5	G5	4	..	19954b	73	11139	42.4	-43 46	7.1	7.6	Ao	8	..	19655b
24	2319	42.1	-70 18	8.2	8.2	Ao	6	..	42473b	74	11055	42.4	-46 11	11.0	9.7	Ao	2	..	21842b
25	1299	42.2	+63 4	8.2	9.4	K5	2	E	37746i	75	11054	42.4	-46 57	8.0	7.6	B5	8	..	21842b
26	1873	42.2	+55 7	8.6	9.2	Go	3	..	37802i	76	10992	42.4	-49 47	7.81	9.1	K5	2	..	21842b
27	3038	42.2	+39 21	8.6	9.8	K5	1	..	38773i	77	7708	42.4	-55 21	8.3	9.5	K5	2	..	19954b
28	2867	42.2	+35 49	7.27	7.83	Go	7	..	38412i	78	7707	42.4	-55 37	9.8	9.8	B9	2	..	19954b
29	3246	42.2	+ 7 20	10.5	11.3	G5	2	..	19012b	79	2322	42.4	-70 26	7.8	7.8	Ao	7	..	42473b
30	3269	42.2	+ 3 35	10.1	10.6	F8	1	..	40290b	80	1999	42.4	-72 57	8.2	9.0	G5	3	..	20270b
31	3175	42.2	+ 2 14	6.04	6.10	A2	10	..	37801i	81	745	42.5	+72 51	6.94	8.29	Ma	3	..	38095i
32	4429	42.2	-19 12	9.5	10.0	A2	1	..	40331b	82	2839	42.5	+33 59	8.1	8.4	Fo	7	..	38412i
33	4417	42.2	-21 21	10.3	9.8	Ao	2	..	40302b	83	3237	42.5	+18 7	8.3	9.3	Ko	2	..	38775i
34	4215	42.2	-22 20	9.3	10.0	Ko	1	..	40302b	84	3270	42.5	+ 9 27	9.5	10.7	K5	1	..	19012b
35	12836	42.2	-24 46	9.6	11.1	K2	1	..	40302b	85	12431	42.5	-28 59	9.4	9.1	A2	4	..	40086b
36	10981	42.2	-36 33	9.9	9.8	Go	3	..	22853b	86	12866	42.5	-29 48	9.0	10.5	K5	2	..	39202b
37	10725	42.2	-39 56	11.0	10.9	Ao	3	..	21440b	87	11225	42.5	-38 6	10.1	10.6	K5	1	..	22853b
38	10916	42.2	-41 52	9.1	8.9	Ao	4	..	19655b	88	10732	42.5	-39 3	10.5	11.4	F8	3	..	21440b
39	11162	42.2	-44 49	7.92	8.8	Ko	6	..	21842b	89	11080	42.5	-47 14	9.5	9.4	A2	5	..	21842b
40	3567	42.2	-64 25	8.3	8.3	Ao	4	..	13775b	90	11076	42.5	-48 1	11.0	9.7	Ao	2	..	21842b
41	3365	42.2	-65 12	6.30	6.9	B8	..	..	56,139	91	7711	42.5	-55 27	9.0	9.0	B9	7	..	19954b
42	2086	42.2	-71 56	8.0	9.1	K2	5	..	42473b	92	2996	42.6	+23 31	9.1	9.6	F8	1	..	38775i
43	775	42.2	-81 39	9.0	9.8	G5	2	..	43458b	93	3218	42.6	+13 12	8.02	9.07	K2	2	..	38727i
44	2132	42.3	+50 59	8.8	9.8	Ko	2	..	37609i	94	3248	42.6	+ 7 3	9.8	10.1	Fo	3	..	19012b
45	2745	42.3	+42 37	8.0	8.5	F8	6	..	38773i	95	4393	42.6	-15 11	8.05	9.05	Ko	5	..	40331b
46	2797	42.3	+36 55	8.7	9.7	Ko	1	..	38412i	96	4420	42.6	-21 45	8.2	8.8	Ao	6	..	40302b
47	2608	42.3	+28 14	10.0	11.0	Ko	1	..	20914i	97	13260	42.6	-31 37	10.1	9.9	A2	3	..	39202b
48	2683	42.3	+27 17	8.7	9.7	Ko	1	..	20914i	98	10844	42.6	-50 32	9.0	8.7	B8	4	..	19895b
49	3247	42.3	+ 6 59	9.8	10.8	Ko	2	..	19012b	99	10255	42.6	-52 12	9.6	9.6	Ao	2	..	19895b
50	4392	42.3	-15 47	7.31	7.87	Go	8	..	40331b	100	6844	42.6	-59 21	8.0	9.3	Ko	4	..	19954b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

151500

16<sup>h</sup> 42<sup>m</sup> .7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2779	42.7	+36 52	8.6	9.2	Go	3	..	38412i	51	10997	42.9	-49 8	8.3	8.4	B9	8	..	21842b
2	3183	42.7	- 0 53	9.1	9.6	F8	2	..	39474b	52	8143	42.9	-57 34	10.1	10.1	B9	2	..	19954b
3	4451	42.7	- 9 30	9.2	9.2	A0	2	..	40597b	53	776	42.9	-81 17	8.8	10.0	K5	3	..	43458b
4	4431	42.7	-19 6	8.2	8.9	G5	7	..	40331b	54	1609	43.0	+61 9	7.72	7.72	A0	4	0.6	37802i
5	4218	42.7	-22 25	9.9	10.6	K	1	..	40302b	55	3251	43.0	+ 6 55	9.8	10.3	F8	3	..	19012b
6	12840	42.7	-24 53	11.0	11.1	Go	1	..	40302b	56	3294	43.0	+ 6 47	9.1	9.1	A0	6	..	19012b
7	11695	42.7	-25 20	9.1	8.6	A2	8	..	40302b	57	..	43.0	- 0 40	..	..	A0	2	..	39474b
8	12435	42.7	-28 16	10.3	11.4	K0	1	..	40086b	58	12847	43.0	-24 44	10.3	10.3	A0	3	..	40302b
9	12874	42.7	-29 47	8.8	9.6	F5	4	..	39202b	59	11180	43.0	-27 24	8.6	9.4	Go	3	..	40086b
10	12048	42.7	-32 35	8.8	8.7	B9	5	..	39202b	60	12441	43.0	-28 33	9.8	9.8	A3	2	..	40086b
11	11468	42.7	-33 51	7.30	7.3	A2	8	..	22853b	61	12442	43.0	-28 57	8.0	8.2	A2	6	..	40086b
12	11229	42.7	-38 15	9.9	10.9	B9	4	..	21440b	62	12883	43.0	-29 33	10.5	10.2	F8	1	..	40441b
13	11228	42.7	-38 34	10.1	10.7	A0	4	..	21440b	63	13263	43.0	-31 18	9.8	9.9	F5	1	..	39202b
14	10770	42.7	-40 16	9.9	10.7	Go	3	..	21440b	64	10930	43.0	-41 27	8.1	7.7	B2	6	..	19655b
15	10925	42.7	-41 49	7.4	7.0	B2	3	0.7	43871b	65	11577	43.0	-42 39	9.7	10.1	A0	3	..	21440b
16	10995	42.7	-49 15	9.2	8.7	F5	4	..	21842b	66	10998	43.0	-49 52	6.55	7.0	A5	9	..	21842b
17	10533	42.7	-51 22	7.8	8.5	B8	8	..	19926b	67	7865	43.0	-54 34	9.0	9.3	B8	3	..	19954b
18	7862	42.7	-54 46	9.0	9.2	B8	5	..	19954b	68	8144	43.0	-57 18	10.4	10.4	B9	2	..	19954b
19	7875	42.7	-56 33	8.9	8.9	B8	5	..	19918b	69	6846	43.0	-59 34	9.0	9.6	A0	4	..	19954b
20	2641	42.7	-69 38	9.4	10.6	K5	1	..	39343b	70	5454	43.0	-62 34	8.0	8.4	F5	5	..	13775b
21	612	42.7	-83 34	9.8	9.9	A5	2	..	43458b	71	2836	43.0	-68 53	8.8	10.0	K5	4	..	42473b
22	1697	42.8	+60 10	8.2	9.0	G5	3	..	37802i	72	2881	43.1	+29 24	8.5	9.0	F8	3	..	20914i
23	1832	42.8	+54 23	9.1	9.4	F	2	R	37802i	73	3185	43.1	- 0 25	9.8	9.9	A5	2	..	39474b
24	2643	42.8	+43 35	9.2	9.7	F8	1	..	38773i	74	3186	43.1	- 0 57	9.1	9.7	Go	3	..	39474b
25	3272	42.8	+ 5 25	5.28	5.28	Aop	..	1.8R	56.94	75	3996	43.1	- 3 20	9.5	10.1	Go	2	..	39474b
26	3248	42.8	- 1 41	9.8	10.4	Go	2	..	39474b	76	4434	43.1	-19 25	9.0	9.1	F2	4	..	40331b
27	4486	42.8	-14 44	6.12	6.12	A0	9	..	39477b	77	4421	43.1	-21 13	8.8	10.0	K5	2	..	40302b
28	4350	42.8	-16 9	8.0	8.8	G5	6	..	40331b	78	11578	43.1	-26 40	9.8	11.1	K0	1	5.1	40441b
29	4432	42.8	-19 53	8.8	9.7	K5	3	..	40302b	79	13265	43.1	-31 29	6.92	7.9	K0	8	..	39202b
30	12875	42.8	-29 8	10.5	11.0	A0	1	..	40441b	80	11127	43.1	-35 8	9.36	9.2	F8	4	..	22853b
31	12876	42.8	-29 31	10.3	10.8	K0	1	..	40441b	81	10991	43.1	-36 14	7.9	8.7	K0	7	..	22853b
32	13491	42.8	-30 19	10.8	10.4	A2	1	..	39202b	82	11234	43.1	-38 23	9.2	10.4	B5	5	..	21440b
33	13492	42.8	-30 36	9.0	9.3	F5	4	..	39202b	83	10744	43.1	-39 11	9.1	10.1	G5	3	..	22853b
34	11230	42.8	-38 49	9.1	10.1	A0	3	..	22853b	84	11087	43.1	-47 46	10.3	9.7	A3	3	..	21842b
35	10774	42.8	-40 10	8.38	10.4	K5	2	..	19655b	85	7877	43.1	-56 53	8.8	9.5	B8	4	..	19954b
36	10979	42.8	-45 4	9.46	9.5	B3	3	..	21842b	86	3027	43.1	-66 28	9.2	9.3	A3	3	..	42473b
37	11083	42.8	-47 20	9.9	9.7	K0	2	..	21842b	87	2000	43.1	-72 57	8.2	8.8	Go	4	..	20270b
38	11210	42.8	-48 51	10.3	9.6	A0	3	..	21842b	88	510	43.2	+79 23	8.31	9.31	K0	2	..	37240i
39	6658	42.8	-60 23	8.3	8.7	F0	3	..	13775b	89	2997	43.2	+23 10	9.1	9.9	G5	2	..	38775i
40	2642	42.8	-70 0	7.44	6.9	B8	9	..	42473b	90	3258	43.2	+ 4 3	9.8	10.9	K2	1	..	40290b
41	883	42.9	+68 17	7.56	8.34	G5	3	0.4	37752i	91	3309	43.2	+ 1 15	7.9	8.0	A3	6	..	37801i
42	2435	42.9	+48 23	8.2	8.3	A5	3	..	37609i	92	4435	43.2	-19 17	var.	var.	Md	..	R	M
43	2211	42.9	+46 14	7.40	8.40	K0	4	..	37609i	93	4563	43.2	-20 17	9.0	9.7	K5	2	..	40302b
44	2986	42.9	+21 44	9.4	9.5	A2	2	..	38775i	94	4219	43.2	-22 32	8.6	8.6	F2	6	..	40302b
45	3220	42.9	+13 51	8.3	8.3	A0	2	..	37218i	95	11699	43.2	-25 4	9.20	9.1	A2	6	..	40302b
46	3306	42.9	+ 1 24	8.7	8.8	A3	4	..	37801i	96	11700	43.2	-25 23	9.3	9.4	F5	5	..	40302b
47	4354	42.9	- 7 34	9.9	10.9	K	1	..	40607b	97	11186	43.2	-27 24	10.1	9.8	Go	2	..	40086b
48	12843	42.9	-24 49	9.0	10.0	K0	4	..	40302b	98	11217	43.2	-49 2	8.3	8.1	G5	7	..	21842b
49	10989	42.9	-36 9	9.7	9.6	A0	4	..	22853b	99	10848	43.2	-50 10	9.46	9.4	A0	1	..	19895b
50	11574	42.9	-42 56	7.0	7.3	F0	8	0.8	19655b	100	10541	43.2	-51 42	11.0	9.6	A0	1	..	19895b

THE HENRY DRAPER CATALOGUE.

151600

16<sup>h</sup> 43<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	6847	43.2	-59 34	9.9	9.9	Ao	2	..	19954b	51	2381	43.6	+47 43	7.96	8.38	F5	5	..	37609i
2	4024	43.2	-64 2	8.0	9.2	K5	1	..	13775b	52	3074	43.6	+10 13	9.1	10.1	Ko	1	..	19012b
3	2545	43.3	+49 20	8.8	9.6	G5	2	..	37609i	53	3179	43.6	+ 2 47	9.5	10.3	G5	3	..	40290b
4	2747	43.3	+41 57	8.2	8.2	Aop	5	R	38773i	54	4002	43.6	- 3 26	8.6	8.9	F2	3	..	37801i
5	3273	43.3	+ 9 1	8.1	9.1	Ko	3	..	19012b	55	4165	43.6	- 4 20	7.26	8.04	G5	6	0,6	39474i
6	3310	43.3	+ 1 48	9.8	10.1	Fo	3	..	40290b	56	4353	43.6	-16 36	8.1	9.1	Ko	3	..	40331b
7	3187	43.3	- 0 48	9.8	10.4	Go	1	..	39474b	57	4330	43.6	-18 45	8.1	9.1	Ko	4	..	40331b
8	10784	43.3	-40 27	11.0	10.9	Ao	3	..	21440b	58	4422	43.6	-21 41	7.60	8.8	Ma	5	..	40302b
9	11154	43.3	-43 51	9.1	9.7	G5	2	..	21842b	59	12857	43.6	-24 28	7.02	7.1	A2	5	..	35972b
10	10989	43.3	-45 3	9.72	9.7	Ao	3	..	21842b	60	11706	43.6	-25 4	10.8	10.6	G5	1	..	40302b
11	7713	43.3	-55 8	9.3	9.8	F8	3	..	19954b	61	11237	43.6	-38 55	11.0	11.0	Ao	2	..	21440b
12	613	43.3	-83 33	8.5	9.7	K5	2	..	43458b	62	10852	43.6	-50 14	10.3	9.6	Ao	1	R	19895b
13	1702	43.4	+56 58	4.88	5.16	Fo	..	..	56,94	63	7714	43.6	-55 53	9.9	9.9	Ao	3	..	19954b
14	3043	43.4	+39 17	8.7	9.2	F8	3	..	38773i	64	2002	43.6	-72 40	8.2	8.8	Go	4	..	20270b
15	2875	43.4	+30 14	9.1	9.9	G5	1	..	20914i	65	1182	43.6	-76 15	8.6	8.7	A3	7	..	42633b
16	3045	43.4	+11 20	7.40	8.40	Ko	3	..	37218i	66	777	43.6	-81 15	9.2	10.0	G5	2	..	43458b
17	3275	43.4	+ 3 49	10.1	11.3	K5	1	..	40290b	67	42	43.6	-89 19	10.0	11.0	Ko	4	..	22980b
18	3178	43.4	+ 2 54	8.1	8.9	G5	4	..	37801i	68	1141	43.7	+65 25	8.2	9.2	Ko	4	E	37746i
19	4436	43.4	-19 5	8.6	10.0	K5	2	..	40331b	69	1876	43.7	+55 29	7.06	7.40	F2	8	..	37802i
20	4222	43.4	-22 35	10.5	9.8	Ko	2	..	40302b	70	1893	43.7	+52 59	8.8	9.4	G	3	E	37609i
21	11190	43.4	-27 51	10.3	10.9	K2	1	..	40441b	71	2645	43.7	+43 17	8.8	10.0	K5	1	..	38773i
22	10265	43.4	-52 4	9.6	9.6	Ao	2	..	19895b	72	3161	43.7	+19 17	8.4	9.5	K2	2	..	38775i
23	511	43.5	+79 6	6.38	7.38	Ko	6	..	37240i	73	3075	43.7	+ 9 56	8.07	9.07	Ko	6	0,3	19012b
24	2882	43.5	+29 41	9.1	9.1	Ao	3	..	20914i	74	3180	43.7	+ 2 5	10.1	11.1	Ko	1	..	40290b
25	2613	43.5	+28 34	8.3	9.1	G5	3	..	38770i	75	4168	43.7	- 4 49	8.8	9.8	Ko	1	..	39474b
26	3332	43.5	+20 23	7.90	8.90	Ko	4	..	38775i	76	4395	43.7	-15 30	6.11	6.19	A3	7	..	8391b
27	3225	43.5	+13 46	6.32	7.10	G5	7	..	37218i	77	4354	43.7	-16 14	8.9	8.9	Ao	4	..	40331b
28	3073	43.5	+10 35	8.5	9.6	K2	2	..	19012b	78	12858	43.7	-24 8	10.5	10.2	Fo	3	..	40302b
29	3279	43.5	+ 8 35	8.3	9.1	G5	7	0,2	19012b	79	12454	43.7	-28 52	10.5	10.9	A5	1	..	40441b
30	3251	43.5	- 1 41	9.3	9.4	A3	4	..	39474b	80	11285	43.7	-34 7	2.36	3.36	Ko	..	R	28,211
31	4001	43.5	- 4 3	9.5	10.0	F8	2	..	39474b	81	11014	43.7	-37 53	8.1	8.0	Ao	7	..	22853b
32	4320	43.5	- 8 45	7.78	8.20	F5	9	..	40597b	82	10752	43.7	-39 57	11.0	10.4	Ao	3	..	21440b
33	4454	43.5	- 9 45	8.2	8.5	Fo	7	..	40597b	83	10941	43.7	-41 17	8.8	7.8	B9	6	..	19655b
34	12854	43.5	-24 29	9.6	8.9	F5	5	..	40302b	84	11161	43.7	-43 52	9.9	9.7	Ao	3	..	21842b
35	12853	43.5	-24 54	7.45	8.3	Ko	8	..	40302b	85	10996	43.7	-45 40	9.9	9.7	F5	3	..	21842b
36	11581	43.5	-26 48	8.8	8.9	Ao	4	..	40086b	86	11069	43.7	-46 38	9.3	9.4	B9	3	..	21842b
37	12451	43.5	-28 49	10.3	10.9	Fo	2	..	40441b	87	11068	43.7	-46 46	9.1	8.8	Ao	6	..	21842b
38	13505	43.5	-30 31	9.1	9.7	Ao	3	..	39202b	88	8149	43.7	-57 25	7.29	7.5	B9	..	1,5	56,139
39	13504	43.5	-31 2	9.4	9.9	F5	2	..	39202b	89	2383	43.8	+47 39	8.2	8.7	F8	3	..	37609i
40	13272	43.5	-31 39	10.1	10.2	G5	1	..	39202b	90	3276	43.8	+ 8 55	9.5	10.3	G5	1	..	19012b
41	12061	43.5	-32 18	8.1	9.1	B9	6	..	39202b	91	4224	43.8	-23 3	10.1	9.7	F2	2	..	40302b
42	11236	43.5	-38 45	10.1	10.9	B8	2	..	21440b	92	12859	43.8	-24 16	10.1	10.6	K5	1	..	40302b
43	10789	43.5	-40 35	8.5	8.0	A2	5	..	19655b	93	13510	43.8	-30 41	10.1	10.2	A2	1	..	39202b
44	10993	43.5	-45 22	10.1	9.2	F5	4	..	21842b	94	11070	43.8	-46 45	11.6	9.5	Ao	1	..	21842b
45	8147	43.5	-57 34	9.1	10.4	G5	1	..	19954b	95	R	43.8	-54 5	..	..	Mb	..	..	M
46	8146	43.5	-57 41	10.3	10.3	B9	4	..	19954b	96	7880	43.8	-56 29	9.0	9.2	B8	4	..	19918b
47	3240	43.5	-67 31	9.8	9.8	Ao	3	..	42473b	97	8150	43.8	-57 6	8.6	9.5	Fo	6	..	19954b
48	3239	43.5	-67 37	8.3	8.6	Fo	6	..	42473b	98	565	43.9	+78 2	8.2	9.2	Ko	1	..	37240i
49	1667	43.6	+58 16	9.0	10.1	K2	1	..	37802i	99	3137	43.9	+25 44	7.9	8.4	F8	4	..	38770i
50	1917	43.6	+55 57	8.2	9.0	G5	3	..	37802i	100	3333	43.9	+20 21	8.8	9.6	G5	1	..	38775i

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

151700

16<sup>h</sup>43<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3093	43.9	+17 19	7.26	7.32	A2	5	..	38775i	51	3280	44.2	+ 8 33	9.8	10.4	Go	1	..	19012b
2	3296	43.9	+ 6 53	9.1	10.3	K5	4	..	19012b	52	3311	44.2	+ 1 21	9.1	9.2	A2	5	..	40290b
3	4170	43.9	- 4 58	8.75	9.53	G5	4	..	40597b	53	3583	44.2	+ 0 6	8.4	9.5	K2	2	..	37801i
4	4323	43.9	- 8 53	9.2	9.6	F5	4	..	40597b	54	4254	44.2	- 2 34	8.8	8.9	A2	4	..	39474b
5	12931	43.9	-23 16	8.1	9.4	Ko	4	..	40302b	55	11200	44.2	-28 3	11.0	12.0	Ko	1	R	40441b
6	12459	43.9	-28 34	10.5	10.0	Ao	2	..	40086b	56	12903	44.2	-29 24	9.3	9.9	F5	2	..	40086b
7	10946	43.9	-41 39	7.7	8.0	Ko	4	..	19655b	57	13517	44.2	-30 5	9.23	9.0	Ao	5	..	39202b
8	11165	43.9	-43 32	8.3	8.5	B8	7	..	19655b	58	13518	44.2	-31 3	9.6	9.6	Ao	3	..	39202b
9	11072	43.9	-46 51	11.0	9.7	Ao	2	..	21842b	59	13282	44.2	-31 28	8.0	8.7	G5	7	..	39202b
10	6660	43.9	-60 39	8.0	8.7	Ao	5	..	13775b	60	8194	44.2	-53 20	9.2	9.5	Fo	3	..	19895b
11	1229	43.9	-77 19	8.6	9.6	Ko	2	..	42633b	61	7878	44.2	-54 4	9.2	9.2	Ao	5	..	19895b
12	1669	44.0	+58 50	8.3	9.4	K2	3	..	37802i	62	7721	44.2	-55 27	8.7	8.7	Ao	8	..	19954b
13	2748	44.0	+41 56	9.0	9.5	F8	2	..	38773i	63	4026	44.2	-63 4	7.7	7.7	Ao	6	..	13775b
14	2908	44.0	+31 47	8.7	10.1	Ma	1	..	20914i	64	2548	44.3	+49 22	9.1	9.6	F8	5	..	37609i
15	3335	44.0	+20 25	9.4	9.8	F5	1	..	38775i	65	2549	44.3	+49 14	9.2	9.8	G	2	..	37609i
16	3259	44.0	+ 4 32	9.1	9.9	G5	3	..	19012b	66	3244	44.3	+18 29	7.60	8.10	F8	5	..	38775i
17	3278	44.0	+ 3 54	10.1	10.7	Go	1	..	40290b	67	3277	44.3	+ 9 13	9.5	9.9	F5	2	..	19012b
18	3277	44.0	+ 3 43	9.3	9.9	Go	2	..	40290b	68	3584	44.3	+ 0 53	9.3	10.4	K2	1	..	40290b
19	3582	44.0	+ 0 11	8.7	9.5	G5	3	..	37801i	69	4394	44.3	-10 36	4.73	5.15	F5	..	0.9	56.94
20	4332	44.0	-18 5	8.7	9.1	F5	3	..	40331b	70	11009	44.3	-36 35	8.1	8.9	G5	5	..	22853b
21	11585	44.0	-26 34	7.36	7.6	Ao	8	..	40086b	71	11023	44.3	-37 21	6.22	6.2	B9	8	R	4963b
22	12461	44.0	-28 33	10.8	10.3	Ao	1	..	40086b	72	11235	44.3	-48 57	7.4	7.5	F5	10	..	21842b
23	13515	44.0	-30 40	8.6	9.7	Ko	3	..	39202b	73	11008	44.3	-49 52	10.3	10.5	Mb	..	..	M
24	13512	44.0	-30 50	9.4	10.2	G5	1	..	39202b	74	10859	44.3	-50 44	9.1	8.7	B8	4	..	19895b
25	11288	44.0	-34 6	10.5	9.8	A2	3	..	39202b	75	7722	44.3	-55 11	9.8	9.8	B8	3	..	19954b
26	11244	44.0	-38 5	7.21	7.0	B9	9	..	22853b	76	6918	44.3	-58 48	9.1	9.4	Ao	2	..	19954b
27	11167	44.0	-43 25	9.7	9.4	B9	3	..	19655b	77	3241	44.3	-67 11	8.8	9.8	Ko	1	..	42473b
28	11189	44.0	-44 40	9.2	9.1	B8	6	..	21842b	78	1834	44.4	+54 35	8.7	8.8	A5	4	..	37802i
29	11000	44.0	-45 32	10.3	9.7	F5	2	..	21842b	79	2788	44.4	+32 36	8.1	9.2	K2	3	..	20914i
30	11001	44.0	-46 1	9.5	9.4	B8	3	..	21842b	80	2904	44.4	+26 46	7.9	9.0	K2	3	..	38770i
31	1579	44.0	-74 29	8.6	9.6	Ko	2	..	20270b	81	3058	44.4	+24 18	8.8	9.3	F8	2	..	38770i
32	2749	44.1	+42 26	6.15	7.50	Mb	9	..	38773i	82	3228	44.4	+13 3	7.45	8.63	K5	2	..	37218i
33	2614	44.1	+28 4	8.3	8.4	A3	3	..	38770i	83	3313	44.4	+ 1 4	7.24	7.52	Fo	6	..	37801i
34	3078	44.1	+10 7	9.07	10.07	Ko	2	..	19012b	84	4395	44.4	-11 0	9.9	10.5	G	1	..	39477b
35	4423	44.1	-21 47	9.5	10.0	K2	1	..	40302b	85	4597	44.4	-12 54	8.8	9.4	Go	3	..	39477b
36	12933	44.1	-23 44	8.6	8.6	A2	6	..	40302b	86	4397	44.4	-15 16	8.7	9.5	G5	4	..	40331b
37	11587	44.1	-26 39	11.0	9.7	A2	2	..	40086b	87	12862	44.4	-24 21	9.1	8.5	Ao	6	..	40302b
38	11250	44.1	-38 45	10.1	10.9	F8	4	..	21440b	88	12468	44.4	-28 39	10.3	10.0	Ao	3	..	40086b
39	10757	44.1	-39 50	8.8	9.2	Fo	3	..	19655b	89	11012	44.4	-36 36	9.9	9.8	A3	2	..	22853b
40	10949	44.1	-41 24	8.8	9.8	Ko	3	..	19655b	90	10762	44.4	-39 40	8.1	10.1	Ko	5	..	21440b
41	10951	44.1	-41 57	9.1	9.2	Go	3	..	19655b	91	11195	44.4	-44 19	9.7	9.5	B8	2	..	21842b
42	10855	44.1	-50 8	8.56	8.4	B9	7	..	19895b	92	10861	44.4	-50 37	9.7	8.7	B9	2	..	19895b
43	8192	44.1	-53 40	9.3	9.3	B8	3	..	19895b	93	7879	44.4	-54 42	8.3	8.6	A5	6	..	19954b
44	8152	44.1	-57 36	9.1	9.2	A	4	..	19954b	94	3031	44.4	-66 34	8.9	10.3	Ma	..	..	M
45	8151	44.1	-57 40	7.4	8.7	K2	6	..	19954b	95	2213	44.5	+46 26	9.1	9.7	Go	2	..	37609i
46	680	44.2	+74 5	6.76	6.82	A2	7	..	38095i	96	3230	44.5	+13 6	6.70	7.70	Ko	7	..	37218i
47	1918	44.2	+56 17	9.2	9.3	A3	4	..	37802i	97	3183	44.5	+ 2 16	9.0	9.8	G5	2	..	37801i
48	3044	44.2	+39 37	7.92	8.99	K2	3	..	38773i	98	4598	44.5	-12 13	7.83	8.39	Go	6	..	39477b
49	2802	44.2	+37 43	6.97	6.95	B9	8	..	38412i	99	11717	44.5	-25 4	9.70	9.8	F5	3	..	40302b
50	2991	44.2	+21 34	8.7	9.5	G5	3	..	38775i	100	11718	44.5	-25 55	9.0	9.7	G5	3	..	40302b

## THE HENRY DRAPER CATALOGUE.

151800

16<sup>h</sup> 44<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11596	44.5	-26 27	8.6	8.6	Ao	5	..	40086b	51	8205	44.8	-53 7	9.2	9.2	B9	3	..	19895b
2	11203	44.5	-27 10	10.1	11.2	K2	1	..	40441b	52	3166	44.9	+19 28	8.25	9.03	G5	3	..	38775i
3	12909	44.5	-29 4	9.8	10.8	G5	1	..	40441b	53	3080	44.9	+10 51	9.1	9.6	F8	1	..	19012b
4	10957	44.5	-41 4	5.37	5.8	Oe	..	R	28,211	54	4218	44.9	-11 9	8.8	9.4	Go	4	..	39477b
5	10956	44.5	-41 36	9.1	8.7	B8	4	..	19655b	55	4426	44.9	-22 2	9.2	9.4	Go	4	..	40302b
6	11237	44.5	-48 25	9.2	9.6	K5	3	..	21842b	56	11207	44.9	-27 48	8.4	8.6	Ko	5	..	40086b
7	6919	44.5	-58 17	8.6	9.3	Ko	4	..	19954b	57	12479	44.9	-28 52	9.0	8.8	Ao	5	..	40086b
8	2645	44.5	-69 19	9.0	10.0	Ko	1	..	42473b	58	12078	44.9	-32 45	9.5	11.0	K2	1	..	39202b
9	1919	44.6	+56 33	9.3	9.3	A	2	..	37802i	59	11243	44.9	-48 40	10.3	9.6	B8	3	..	21842b
10	2648	44.6	+43 29	8.8	10.0	K5	1	..	38773i	60	8207	44.9	-54 0	8.0	9.5	A2	4	..	19895b
11	3282	44.6	+ 8 18	9.3	10.3	Ko	1	..	19012b	61	7724	44.9	-55 39	9.8	9.8	Ao	3	..	19954b
12	3276	44.6	+ 5 33	8.1	8.1	Ao	7	..	19012b	62	3233	45.0	+13 26	5.95	5.95	Ao	10	..	37218i
13	12934	44.6	-23 51	9.4	9.4	G5	4	..	40302b	63	3191	45.0	- 1 5	9.1	10.1	Ko	2	5,1	39474b
14	11721	44.6	-25 16	7.9	9.4	K5	4	..	40302b	64	4361	45.0	- 7 17	8.8	10.0	K5	1	..	40597b
15	11723	44.6	-25 48	9.1	10.2	Ko	2	..	40302b	65	4443	45.0	-19 40	8.6	8.8	B9	6	..	40302b
16	11204	44.6	-27 44	9.3	8.6	F5	5	..	40086b	66	11727	45.0	-25 27	10.3	10.0	Fo	3	..	40302b
17	10812	44.6	-40 9	8.1	10.1	K2	4	3,2	21440b	67	12920	45.0	-29 54	8.0	7.8	Ao	6	..	39202b
18	11176	44.6	-43 14	9.2	9.4	F8	3	..	19655b	68	11031	45.0	-37 53	10.5	9.3	F8	3	..	38109b
19	11203	44.6	-44 18	10.1	9.7	B8	1	..	21842b	69	10780	45.0	-39 13	11.2	10.9	B8	3	..	21440b
20	10863	44.6	-50 45	8.5	9.3	K2	1	..	19895b	70	10781	45.0	-39 37	10.3	10.9	G5	4	..	21440b
21	10278	44.6	-52 50	9.0	8.7	B9	4	..	19895b	71	11013	45.0	-45 46	10.6	9.7	Ao	2	..	21842b
22	8201	44.6	-53 48	9.2	9.6	Ao	3	..	19895b	72	10869	45.0	-50 20	9.7	8.7	Ao	5	..	19895b
23	8154	44.6	-57 20	8.5	10.4	K2	1	..	19954b	73	7887	45.0	-56 52	8.8	9.2	B9	6	..	19954b
24	3034	44.6	-66 20	9.0	9.3	F2	2	..	42473b	74	8155	45.0	-57 42	10.1	10.4	F2	1	..	19954b
25	3033	44.6	-66 35	8.6	9.8	K5	1	..	42473b	75	6853	45.0	-59 32	8.9	8.8	A2	5	..	19954b
26	2092	44.6	-71 8	8.3	9.1	G5	3	..	42473b	76	968	45.1	+67 3	8.0	9.1	K2	2	E	37746i
27	1581	44.6	-74 48	8.8	9.6	G5	3	..	20270b	77	2804	45.1	+37 12	8.2	9.2	Ko	3	0,1	38412i
28	3297	44.7	+ 6 21	9.1	9.4	Fo	6	..	19012b	78	2783	45.1	+36 5	7.07	7.41	F2	7	..	38412i
29	3184	44.7	+ 2 4	9.0	9.5	F8	3	..	37801i	79	3282	45.1	+ 9 35	7.02	7.80	G5	5	0,8	9606b
30	3190	44.7	- 0 23	9.1	10.2	K2	3	..	40290b	80	3264	45.1	+ 4 55	9.01	10.01	K	4	R	19012b
31	11602	44.7	-26 36	11.0	10.0	B9	1	..	40302b	81	3265	45.1	+ 4 54	8.86	9.42	G	4	..	19012b
32	11500	44.7	-33 36	10.5	10.2	A3	2	..	39202b	82	4007	45.1	- 3 36	8.9	9.7	G5	3	..	39474b
33	10772	44.7	-39 32	9.1	10.1	Ko	4	..	21440b	83	4328	45.1	- 8 34	8.8	9.9	K2	5	..	40597b
34	11602	44.7	-42 27	8.4	10.7	K5	1	..	19655b	84	4360	45.1	-16 23	6.96	6.91	B8	7	..	39477b
35	11100	44.7	-48 1	8.7	10.3	B	5	..	21842b	85	11610	45.1	-26 37	10.3	10.3	Ko	1	..	40302b
36	2647	44.7	-69 7	7.1	7.1	B9	8	..	42473b	86	11209	45.1	-27 47	9.8	9.4	Ao	2	..	40086b
37	1878	44.8	+55 36	6.99	8.06	K2	4	..	37802i	87	12482	45.1	-28 23	10.8	11.1	Go	1	..	40441b
38	3091	44.8	+12 3	8.3	9.5	K5	1	..	19012b	88	12484	45.1	-29 3	9.4	11.1	K5	1	..	40086b
39	3283	44.8	+ 8 8	9.3	9.6	Fo	3	..	19012b	89	12084	45.1	-32 36	8.8	9.6	Ko	3	..	39202b
40	3298	44.8	+ 6 38	9.8	11.2	Ma	1	..	19012b	90	11033	45.1	-37 53	3.09	2.92	B3p	..	R	28,211
41	3277	44.8	+ 5 19	9.5	10.7	K5	1	..	19012b	91	10830	45.1	-40 31	7.5	7.7	Ko	6	..	19655b
42	3254	44.8	- 1 52	9.1	9.5	F5	2	..	37801i	92	11182	45.1	-43 23	7.9	8.8	F5	5	..	19655b
43	13527	44.8	-30 30	8.1	9.0	Ko	6	..	39202b	93	7727	45.1	-55 19	9.8	9.8	B8	2	..	19954b
44	13289	44.8	-31 26	9.6	8.7	Ao	4	..	39202b	94	7728	45.1	-55 30	9.5	9.6	A2	4	..	19954b
45	13290	44.8	-31 33	9.4	10.5	Ko	1	..	39202b	95	..	45.1	-64 4	..	..	Pec.	..	R	M
46	12075	44.8	-32 47	9.5	9.3	Ao	4	..	39202b	96	3573	45.1	-65 2	var.	var.	Md	..	R	M
47	11504	44.8	-33 39	8.8	10.2	G5	1	..	39202b	97	2750	45.2	+42 25	8.4	9.5	K2	3	..	38773i
48	11257	44.8	-38 51	10.8	11.4	A	2	..	21440b	98	3283	45.2	+ 9 52	9.5	10.3	G5	1	..	19012b
49	11011	44.8	-45 18	8.3	8.8	F2	7	..	21842b	99	3284	45.2	+ 3 35	10.5	10.8	F2	2	..	40290b
50	10865	44.8	-50 57	9.5	9.0	Go	4	..	19895b	100	4259	45.2	- 2 29	6.32	6.66	F2	10	..	37801i

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

151900

16<sup>h</sup>45<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4506	45.2	— 6 43	9.5	10.1	Go	2	..	40597b	51	3245	45.4	— 68 1	10.0	10.0	Ao	1	..	39343b
2	12876	45.2	— 24 40	7.53	7.8	F5	8	..	40302b	52	2993	45.5	+ 21 50	8.2	9.2	Ko	3	..	38775i
3	11612	45.2	— 26 56	9.8	8.6	Ao	5	..	40086b	53	3125	45.5	+ 14 13	8.3	9.3	Ko	3	..	37218i
4	11211	45.2	— 27 52	8.6	8.3	F2	6	..	40086b	54	3052	45.5	+ 11 16	8.0	9.2	K5	3	..	19012b
5	12487	45.2	— 28 18	10.5	9.1	B9	3	..	40086b	55	3285	45.5	+ 8 20	8.5	9.3	G5	5	..	19012b
6	12087	45.2	— 32 22	9.5	9.4	A3	3	..	39202b	56	3256	45.5	+ 7 25	5.46	5.46	Ao	..	0,8 R	56,94
7	11146	45.2	— 35 34	8.9	9.8	K5	3	..	22853b	57	3299	45.5	+ 6 35	9.5	10.1	Go	4	..	19012b
8	10785	45.2	— 39 5	7.7	8.9	Ao	3	..	19655b	58	3186	45.5	+ 2 24	9.1	9.7	Go	4	..	40290b
9	10833	45.2	— 40 12	9.18	9.8	F8	2	..	19655b	59	3317	45.5	+ 1 22	9.1	10.5	Mb	2	..	40290b
10	10832	45.2	— 40 38	10.1	9.8	Ao	1	..	19655b	60	4009	45.5	— 3 11	8.6	8.6	Ao	2	..	37801i
11	10971	45.2	— 41 26	10.1	8.9	B8	3	..	19655b	61	4331	45.5	— 8 26	8.6	9.4	G5	6	..	40597b
12	10969	45.2	— 41 38	11.2	9.8	A	2	..	19655b	62	13537	45.5	— 30 12	9.43	9.7	Ko	3	..	39202b
13	11246	45.2	— 48 20	9.1	8.8	F5	5	..	21842b	63	13295	45.5	— 31 39	9.1	9.4	A2	5	..	39202b
14	11247	45.2	— 48 38	9.5	8.7	B5	5	..	21842b	64	12092	45.5	— 32 54	9.5	9.6	Ao	3	..	39202b
15	10293	45.2	— 52 28	9.6	9.6	Ao	2	..	19895b	65	10841	45.5	— 40 33	6.63	6.2	B9	8	..	4963b
16	7726	45.2	— 55 55	9.4	10.6	K5	1	..	19954b	66	11609	45.5	— 42 50	6.80	6.9	Ao	9	..	19655b
17	4031	45.2	— 63 17	7.4	8.6	K5	2	..	13775b	67	8157	45.5	— 57 45	5.95	7.6	K5	..	0,4	56,139
18	3036	45.2	— 66 9	8.9	8.9	Ao	4	..	42473b	68	6854	45.5	— 59 9	9.1	9.1	Ao	4	..	19954b
19	2649	45.2	— 69 44	9.1	10.3	K5	1	..	39343b	69	2651	45.5	— 69 33	9.4	10.0	Go	3	..	39343b
20	3124	45.3	+ 14 13	8.9	9.7	G5	1	..	37218i	70	2650	45.5	— 69 43	10.3	10.3	Ao	2	..	39343b
21	3235	45.3	+ 13 50	9.3	9.9	Go	1	..	37218i	71	2784	45.6	+ 36 11	8.6	9.6	Ko	3	..	38412i
22	3081	45.3	+ 10 17	9.1	10.3	K5	1	..	19012b	72	3039	45.6	+ 16 41	7.6	7.6	Ao	4	..	38775i
23	4008	45.3	— 3 27	8.2	8.2	B9	3	..	37801i	73	..	45.6	+ 10 6	..	..	A2	1	..	19012b
24	4329	45.3	— 8 34	9.9	10.9	Ko	1	..	40597b	74	3300	45.6	+ 6 28	9.8	10.8	Ko	2	..	19012b
25	4336	45.3	— 19 1	8.12	9.12	Ko	5	..	40331b	75	..	45.6	+ 6 23	..	..	F5	1	..	19012b
26	4568	45.3	— 20 27	8.2	8.9	K5	5	..	40302b	76	3281	45.6	+ 5 17	9.3	10.4	K2	1	..	19012b
27	11214	45.3	— 27 3	10.8	9.4	A2	2	..	40086b	77	4512	45.6	— 13 25	8.6	8.6	Ao	4	..	39477b
28	12927	45.3	— 29 15	8.0	8.4	Go	5	..	40086b	78	4643	45.6	— 17 46	8.4	9.5	K2	2	..	40331b
29	12928	45.3	— 29 59	9.53	9.7	F5	3	..	39202b	79	4428	45.6	— 21 29	8.2	9.2	Ko	5	..	40302b
30	10836	45.3	— 40 49	10.8	10.7	A	1	..	19655b	80	12884	45.6	— 24 32	10.1	10.0	Go	3	..	40302b
31	10834	45.3	— 41 0	9.5	10.1	Ao	2	..	19655b	81	11617	45.6	— 26 33	11.0	9.7	A3	1	..	40302b
32	10972	45.3	— 41 41	6.56	6.4	Oc	..	0,8	28,211	82	11618	45.6	— 26 42	8.0	7.6	Fo	8	..	40086b
33	10564	45.3	— 51 33	9.0	9.0	Go	4	..	19895b	83	11149	45.6	— 35 51	9.5	9.8	F8	2	..	22853b
34	8156	45.3	— 57 47	8.7	9.5	G5	3	..	19954b	84	11038	45.6	— 37 4	10.8	9.8	Ao	2	..	38109b
35	2870	45.4	+ 35 7	6.77	7.77	Ko	6	..	38412i	85	11037	45.6	— 37 51	3.64	3.45	B2	..	R	28,211
36	2849	45.4	+ 34 14	7.74	8.16	F5	5	..	38412i	86	10977	45.6	— 41 12	9.9	9.8	B8	2	..	19655b
37	2880	45.4	+ 30 8	6.68	7.75	K2	7	..	20914i	87	11083	45.6	— 46 24	10.1	9.5	F2	2	..	21842b
38	2906	45.4	+ 26 12	8.5	8.8	F2	4	..	38770i	88	11107	45.6	— 47 5	7.5	7.6	B9	10	..	21842b
39	3058	45.4	+ 15 34	6.98	7.40	F5	6	..	38775i	89	11252	45.6	— 48 19	9.7	9.4	Ao	4	..	21842b
40	11733	45.4	— 25 35	11.0	10.9	Fo	2	..	40302b	90	10300	45.6	— 52 28	9.0	8.8	Bo	3	R	19895b
41	11615	45.4	— 26 32	10.3	10.0	A5	2	..	40302b	91	5801	45.6	— 61 37	9.3	9.3	Ao	1	..	13775b
42	13294	45.4	— 32 1	8.0	9.4	Ko	4	..	39202b	92	1232	45.6	— 77 19	9.0	9.0	Ao	5	..	42633b
43	11147	45.4	— 35 18	7.75	8.9	Ko	5	..	22853b	93	2333	45.7	+ 50 12	8.3	8.8	F8	3	..	37609i
44	11022	45.4	— 37 2	9.1	10.7	K5	1	..	38109b	94	2616	45.7	+ 28 30	8.9	9.3	F5	1	..	38770i
45	11036	45.4	— 37 49	9.5	8.6	F2	4	..	38109b	95	3174	45.7	+ 19 4	8.6	9.6	Ko	1	..	38775i
46	10839	45.4	— 40 24	8.1	8.6	Ao	6	..	19655b	96	3301	45.7	+ 6 44	9.5	10.3	G5	1	..	19012b
47	10840	45.4	— 40 45	8.5	10.1	Ko	2	..	19655b	97	11737	45.7	— 25 22	8.2	8.5	F2	6	..	40302b
48	7884	45.4	— 54 7	7.8	8.3	Ao	3	0,3-	41738b	98	12497	45.7	— 28 14	9.6	10.3	G5	1	..	40441b
49	7889	45.4	— 56 13	8.1	8.6	A3	7	..	19954b	99	13541	45.7	— 31 2	8.8	9.6	Ko	3	..	39202b
50	3037	45.4	— 66 56	8.1	8.7	Go	5	..	42473b	100	11512	45.7	— 33 30	9.1	10.2	G5	3	..	39202b

THE HENRY DRAPER CATALOGUE.

152000

16<sup>h</sup> 45<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11040	45.7	-37 27	9.2	8.7	Fo	4	..	22853b	51	3252	46.0	+18 33	8.9	9.9	Ko	1	..	38775i
2	11271	45.7	-38 16	7.37	7.4	B8	8	..	22853b	52	3082	46.0	+10 40	10.5	11.0	F8	2	..	19012b
3	10980	45.7	-41 37	8.1	7.2	Bo	6	..	19655b	53	3285	46.0	+ 9 10	9.5	9.8	Fo	4	..	19012b
4	11108	45.7	-47 25	9.3	8.8	B8	5	..	21842b	54	4360	46.0	- 6 1	9.26	10.33	K2	1	..	40597b
5	10569	45.7	-51 10	9.5	9.3	B8	3	..	19895b	55	4430	46.0	-21 10	9.5	9.4	A5	4	..	40302b
6	7888	45.7	-54 55	7.91	8.0	F2	3	..	36326b	56	4232	46.0	-22 45	8.2	7.9	Fo	7	..	40302b
7	6922	45.7	-58 5	8.6	8.7	Ao	7	..	19954b	57	11626	46.0	-26 45	8.6	8.3	Fo	7	..	40086b
8	6923	45.7	-58 50	9.2	9.9	A2	2	..	19954b	58	12505	46.0	-28 27	11.0	10.2	Ao	2	..	40086b
9	2653	45.7	-69 31	10.2	10.3	A2	1	..	39343b	59	13304	46.0	-31 14	9.0	10.2	Ko	1	..	39202b
10	2326	45.7	-70 57	6.65	6.6	A2	9	..	42473b	60	10988	46.0	-41 15	10.1	9.8	B2	2	..	19655b
11	1303	45.8	+62 57	8.2	8.3	A2	5	E	37746i	61	11226	46.0	-44 45	9.7	9.5	Ao	3	..	21842b
12	1708	45.8	+57 4	8.2	8.8	Go	3	..	37802i	62	11110	46.0	-47 29	11.0	9.7	Ao	2	..	21842b
13	2618	45.8	+28 34	7.9	8.4	F8	3	..	38770i	63	10880	46.0	-50 4	8.46	7.9	A2	7	..	19895b
14	3268	45.8	+ 4 36	8.9	10.1	K5	2	..	19012b	64	..	46.0	-56 6	var.	var.	Md	..	R	M
15	3194	45.8	- 0 36	8.6	9.6	Ko	3	..	39474b	65	6924	46.0	-58 45	9.0	9.3	Ao	5	..	19954b
16	4604	45.8	-12 32	8.3	9.4	K2	2	..	39477b	66	6857	46.0	-59 34	8.2	9.4	K5	4	..	19954b
17	R	45.8	-27 51	10.9	10.9	Ao	1	..	40441b	67	3282	46.1	+ 5 39	7.7	7.8	A2	9	..	19012b
18	13545	45.8	-30 51	10.5	9.9	Ao	2	..	39202b	68	3283	46.1	+ 4 57	8.46	9.53	K2	4	..	19012b
19	11027	45.8	-36 34	10.1	9.8	Fo	2	..	38109b	69	4569	46.1	-20 43	8.8	9.4	Ko	4	..	40302b
20	10793	45.8	-39 8	9.5	10.1	Ao	3	..	22853b	70	4233	46.1	-22 9	9.9	10.0	Ko	1	..	40302b
21	11021	45.8	-45 13	10.3	9.7	F2	3	..	21842b	71	11743	46.1	-25 26	6.91	7.4	Ao	10	..	40302b
22	11109	45.8	-47 12	10.6	9.7	Ao	2	..	21842b	72	11627	46.1	-26 51	8.6	8.9	Ma	3	..	40086b
23	10570	45.8	-51 7	9.1	9.0	F8	4	..	19895b	73	11228	46.1	-27 55	10.8	10.3	G5	1	..	40441b
24	10567	45.8	-52 1	9.9	9.3	B9	2	..	19895b	74	13548	46.1	-30 36	10.3	9.3	Ao	4	..	39202b
25	7887	45.8	-54 12	8.0	8.7	Ko	7	..	19895b	75	11030	46.1	-36 51	7.41	8.4	Ko	7	..	22853b
26	1335	45.8	-75 39	8.8	8.8	Ao	7	..	42633b	76	10991	46.1	-41 34	9.5	8.7	B2	3	..	19655b
27	751	45.9	+71 56	8.4	9.2	G5	1	..	37752i	77	11198	46.1	-43 35	9.0	9.4	B5	3	..	19655b
28	884	45.9	+68 26	8.3	8.9	Go	2	..	37752i	78	11028	46.1	-45 18	8.1	8.5	B8	8	..	21842b
29	2439	45.9	+47 57	8.0	8.1	A5	5	..	37609i	79	11085	46.1	-46 10	10.1	9.7	Go	3	..	21842b
30	2453	45.9	+45 23	8.7	9.3	Go	3	..	37609i	80	7732	46.1	-55 32	9.2	10.3	K5	1	..	19954b
31	2754	45.9	+41 49	7.48	7.56	A3	7	..	38773i	81	6925	46.1	-58 38	9.0	9.9	F8	2	..	19954b
32	2907	45.9	+26 23	7.18	8.18	Ko	5	..	38770i	82	4032	46.1	-63 6	6.14	5.6	Ao	7	0,10	43198b
33	3284	45.9	+ 9 16	9.5	9.8	Fo	3	..	19012b	83	3579	46.1	-64 41	8.7	8.7	Ao	2	..	13775b
34	3302	45.9	+ 6 47	9.8	10.6	G5	2	..	19012b	84	1709	46.2	+57 40	7.03	7.81	G5	7	..	37802i
35	3319	45.9	+ 1 53	9.8	10.9	K2	1	..	40290b	85	2219	46.2	+46 23	9.1	9.7	G	1	..	37609i
36	3195	45.9	- 0 18	8.5	8.5	Ao	4	..	37801i	86	3065	46.2	+40 37	9.1	9.5	F5	2	..	38773i
37	4011	45.9	- 3 5	8.4	9.4	Ko	3	..	39474b	87	3270	46.2	+ 4 47	8.95	9.29	F2	4	..	19012b
38	12889	45.9	-24 38	10.8	10.2	A3	2	..	40302b	88	3288	46.2	+ 3 26	10.1	11.3	K5	1	..	40290b
39	13303	45.9	-31 40	8.4	8.7	Fo	6	..	39202b	89	3321	46.2	+ 1 33	9.0	9.4	F5	3	..	37801i
40	11041	45.9	-37 26	6.83	7.4	G5	8	..	22853b	90	4363	46.2	-16 21	10.1	10.2	A2	1	..	40331b
41	11275	45.9	-38 36	8.1	9.2	F2	4	..	22853b	91	4644	46.2	-17 31	9.3	10.3	Ko	1	..	40331b
42	10986	45.9	-41 24	9.1	8.0	B2	5	..	19655b	92	12943	46.2	-23 51	9.6	10.3	K2	1	..	40302b
43	10573	45.9	-51 55	9.5	9.6	Go	2	..	19895b	93	11744	46.2	-25 50	10.8	10.3	B9	1	..	40302b
44	10302	45.9	-52 36	8.8	8.7	Ao	5	..	19895b	94	12512	46.2	-28 19	11.0	10.9	F5	1	..	40441b
45	8212	45.9	-53 47	8.4	8.4	B9	5	..	19895b	95	10801	46.2	-39 35	10.1	9.8	Ao	2	..	22853b
46	7892	45.9	-54 17	7.0	7.5	B8	7	0,10	36326b	96	10994	46.2	-41 12	10.1	9.2	B9	2	..	19655b
47	2006	45.9	-72 27	9.0	10.0	Ko	1	..	20270b	97	11230	46.2	-44 8	8.9	9.2	F8	5	..	21842b
48	1304	46.0	+63 33	7.9	9.1	K5	4	0,1	37746i	98	11086	46.2	-46 43	9.5	9.7	K2	2	..	21842b
49	2651	46.0	+43 10	9.3	10.1	G5	1	..	38773i	99	11114	46.2	-47 15	10.3	9.7	Ao	2	..	21842b
50	2786	46.0	+32 58	8.3	9.4	K2	2	..	20914i	100	11113	46.2	-47 22	10.6	9.5	F8	4	..	21842b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

152100

16<sup>h</sup> 46<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	10574	46.2	-51 22	8.3	7.9	B8	8	..	19895b	51	8165	46.5	-57 30	8.6	10.3	K2	2	..	19954b
2	2842	46.2	-68 12	9.1	9.1	Ao	4	..	42473b	52	1672	46.6	+58 0	8.2	9.6	Mb	3	..	37802i
3	822	46.2	-80 56	8.3	9.1	G5	6	..	43458b	53	2654	46.6	+43 36	6.37	7.37	Ko	7	0,8	38773i
4	896	46.3	+70 26	8.7	9.8	K2	1	..	37752i	54	2787	46.6	+36 13	8.7	9.8	K2	3	..	38412i
5	1879	46.3	+55 35	7.9	8.9	Ko	3	..	37802i	55	3051	46.6	+15 58	7.24	7.24	Ao	5	..	38775i
6	2442	46.3	+48 24	7.48	7.62	A5	7	..	37609i	56	4401	46.6	-15 43	9.2	9.7	F8	2	..	40331b
7	2220	46.3	+46 10	4.86	4.92	A2p	..	R	56,94	57	4234	46.6	-22 33	9.3	10.3	K5	1	..	40302b
8	2751	46.3	+42 42	9.0	9.6	Go	2	..	38773i	58	11525	46.6	-33 7	7.45	7.4	Ao	8	..	22853b
9	3049	46.3	+39 25	8.9	9.9	Ko	2	..	38773i	59	11523	46.6	-33 13	8.8	9.9	G5	3	..	39202b
10	2843	46.3	+38 46	8.7	9.2	F8	2	..	38773i	60	11284	46.6	-38 57	8.9	9.2	B8	5	..	22853b
11	3104	46.3	+17 45	8.9	9.7	G5	2	..	38775i	61	11627	46.6	-42 53	5.67	7.4	Mb	4	0,8 R	43871b
12	3083	46.3	+10 3	7.32	8.67	Ma	7	5.3	19012b	62	11037	46.6	-45 51	8.5	8.8	B8	6	..	21842b
13	3287	46.3	+9 35	6.77	7.27	F8	7	0,10	9606b	63	11269	46.6	-48 45	10.1	9.4	Ao	2	..	21842b
14	3286	46.3	+8 33	9.1	9.6	F8	5	..	19012b	64	11270	46.6	-48 52	10.1	9.6	Go	1	..	21842b
15	3588	46.3	+0 29	8.3	8.3	Ao	5	..	37801i	65	8167	46.6	-57 25	10.4	10.4	A	2	..	19954b
16	3258	46.3	-1 47	9.0	10.0	Ko	2	..	37801i	66	8166	46.6	-57 53	10.3	10.3	Ao	1	..	19954b
17	12106	46.3	-32 34	8.8	9.0	Ao	4	..	39202b	67	3374	46.6	-65 57	8.1	8.1	Ao	7	..	42473b
18	11277	46.3	-38 9	9.2	11.4	Ko	2	..	38109b	68	3038	46.6	-67 0	7.7	8.7	Ko	7	..	42473b
19	11233	46.3	-44 21	10.3	9.7	B8	2	..	21842b	69	1337	46.6	-76 3	9.0	9.3	F2	3	..	42633b
20	11234	46.3	-44 43	10.1	9.7	Ao	2	..	21842b	70	823	46.6	-81 0	8.7	9.7	Ko	4	..	43458b
21	8162	46.3	-57 53	9.2	10.3	Ko	1	..	19954b	71	897	46.7	+70 41	8.3	8.9	Go	2	E	38095i
22	5463	46.3	-62 9	9.2	10.2	Ko	1	..	39370b	72	2388	46.7	+47 16	8.6	8.7	A5	2	..	37609i
23	868	46.4	+69 48	8.49	9.27	G5	2	..	37752i	73	2884	46.7	+29 59	5.86	7.04	K5	9	..	20914i
24	1307	46.4	+63 41	7.07	8.25	K5	7	0,4	37746i	74	3256	46.7	+18 14	7.62	8.62	Ko	4	..	38775i
25	1880	46.4	+55 19	8.8	9.6	G5	2	..	37802i	75	3258	46.7	+7 54	9.1	9.6	F8	4	..	19012b
26	3289	46.4	+3 21	9.1	9.1	Ao	4	..	19012b	76	4508	46.7	-6 27	9.9	9.9	Ao	3	..	40597b
27	3323	46.4	+1 23	5.47	5.47	Ao	8	..	568b	77	4453	46.7	-19 32	9.5	9.7	Go	1	..	40331b
28	4492	46.4	-14 38	7.81	8.23	F5	6	0,7	39477b	78	11634	46.7	-26 35	8.2	8.8	Ko	4	..	40086b
29	4342	46.4	-18 59	9.5	10.5	Ko	1	..	40331b	79	13318	46.7	-31 16	9.1	8.7	B5	5	..	39202b
30	12947	46.4	-23 24	10.5	10.3	A	1	..	40302b	80	13317	46.7	-31 43	7.40	7.5	B8	8	..	39202b
31	13554	46.4	-30 31	9.1	8.7	F2	6	..	39202b	81	11285	46.7	-38 17	9.5	9.2	B9	5	..	22853b
32	10806	46.4	-39 42	9.7	9.5	Ao	3	..	22853b	82	11009	46.7	-41 11	10.1	8.7	B8	2	..	19655b
33	11235	46.4	-44 56	8.56	9.5	Ko	3	..	21842b	83	11093	46.7	-46 19	9.9	9.7	K5	1	..	21842b
34	10886	46.4	-50 30	11.0	9.6	Ao	1	..	19895b	84	11271	46.7	-49 2	9.3	9.0	B8	4	..	21842b
35	8219	46.4	-53 7	8.3	8.3	B8	6	..	19895b	85	8168	46.7	-57 33	9.1	9.6	B8	3	..	19954b
36	7734	46.4	-55 5	10.1	10.1	Ao	2	..	19954b	86	6667	46.7	-60 31	7.1	9.3	K2	5	..	13775b
37	8163	46.4	-57 15	9.7	9.8	A2	3	..	19954b	87	2885	46.8	+30 34	9.1	9.7	Go	2	..	20914i
38	3372	46.4	-65 9	8.00	8.3	F8	3	..	13775b	88	4364	46.8	-7 8	9.2	9.3	A5	4	..	40597b
39	975	46.5	+66 13	8.2	8.3	A2	6	0,4	37746i	89	12952	46.8	-23 9	10.3	10.0	Go	1	..	40302b
40	3290	46.5	+3 5	9.3	10.5	K5	1	..	19012b	90	11754	46.8	-25 11	9.20	10.2	Ko	3	..	40302b
41	3589	46.5	+0 39	9.0	9.4	F5	2	..	37801i	91	12525	46.8	-28 6	8.6	9.4	G5	4	..	40086b
42	4263	46.5	-2 28	9.2	9.3	A2	3	..	39474b	92	13560	46.8	-30 16	7.11	7.3	A3	9	..	39202b
43	4264	46.5	-2 37	9.5	10.6	K2	1	..	39474b	93	12117	46.8	-32 11	9.5	10.2	G5	1	..	39202b
44	4337	46.5	-8 42	8.0	9.0	Ko	8	..	40597b	94	12116	46.8	-32 13	10.1	9.9	Go	1	..	39202b
45	4494	46.5	-14 12	8.3	9.1	K2	3	0,2	40331b	95	11040	46.8	-36 30	8.8	9.3	G5	3	..	22853b
46	4451	46.5	-19 11	8.0	8.5	F8	7	..	40331b	96	11053	46.8	-37 49	9.5	9.2	F2	5	..	22853b
47	11003	46.5	-41 57	8.1	7.2	Bo	5	..	19655b	97	10877	46.8	-40 9	8.93	8.7	B8	4	..	19655b
48	11089	46.5	-46 45	7.9	8.2	Ao	7	..	21842b	98	11015	46.8	-41 9	8.8	8.1	B8	4	..	19655b
49	11090	46.5	-46 46	7.7	7.9	B8	8	..	21842b	99	11016	46.8	-41 24	9.4	8.6	B8	2	..	19655b
50	10575	46.5	-51 44	9.3	9.1	F5	3	..	19895b	100	11014	46.8	-41 41	10.1	8.3	B8	2	..	19655b



## THE HENRY DRAPER CATALOGUE.

152200

16<sup>h</sup> 46<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11630	46.8	-42 42	9.7	10.1	Ao	2	..	19655b	51	10318	47.1	-52 9	8.3	7.9	B5	6	..	19895b
2	11040	46.8	-45 55	9.0	9.1	Ao	6	..	21842b	52	6931	47.1	-58 40	9.2	9.0	A2	4	..	19954b
3	7738	46.8	-55 32	9.6	9.9	Fo	2	..	19954b	53	911	47.1	-79 19	9.4	9.7	Fo	3	..	19008b
4	7736	46.8	-55 53	7.1	8.7	Ko	7	..	19954b	54	3085	47.2	+10 33	8.7	9.7	Ko	3	..	19012b
5	870	46.9	+69 31	8.9	9.7	G5	1	..	37752i	55	4185	47.2	-4 59	7.85	8.85	Ko	6	..	40597b
6	1838	46.9	+54 11	8.8	9.1	F	3	E	37802i	56	4404	47.2	-15 33	9.3	9.9	Go	1	..	39477b
7	2856	46.9	+33 58	7.64	7.70	A2	5	..	38412i	57	11642	47.2	-26 59	10.3	9.7	Ao	2	..	40086b
8	3191	46.9	+1 59	9.5	10.6	K2	2	..	40290b	58	10889	47.2	-40 17	8.1	10.1	Ma	2	..	19655b
9	3261	46.9	-1 13	9.1	10.1	Ko	2	..	37801i	59	5466	47.2	-62 23	8.5	9.0	F5	4	3,4-	19902b
10	4265	46.9	-2 38	6.96	6.96	Ao	7	0,9	37801i	60	1186	47.2	-76 4	7.00	7.8	F8	8	..	42633b
11	4183	46.9	-4 17	9.2	9.8	Go	1	..	39474b	61	1187	47.2	-76 14	8.6	9.7	K2	2	..	42633b
12	4364	46.9	-5 37	8.0	9.0	Ko	6	..	40597b	62	2753	47.3	+42 4	6.29	7.29	Ko	8	..	38773i
13	12957	46.9	-24 1	9.3	9.4	F5	4	..	40302b	63	2858	47.3	+34 24	8.5	9.3	G5	2	..	38412i
14	12523	46.9	-28 29	10.5	10.2	Ao	2	..	40086b	64	2889	47.3	+29 45	8.2	9.0	G5	5	..	20914i
15	12956	46.9	-29 49	8.6	9.3	Ko	4	..	39202b	65	4367	47.3	-8 3	10.5	10.6	A2	2	..	40597b
16	11158	46.9	-35 18	9.2	9.3	F2	4	..	22853b	66	11242	47.3	-27 55	10.1	10.0	G5	2	..	40441b
17	11019	46.9	-41 6	8.8	8.1	B	3	..	19655b	67	11299	47.3	-38 16	9.7	10.1	B9	4	..	22853b
18	11022	46.9	-41 33	10.5	7.4	B5	5	..	19655b	68	10891	47.3	-40 49	8.5	7.7	B8	5	..	19655b
19	11018	46.9	-41 43	10.3	7.7	B	4	..	19655b	69	11043	47.3	-41 22	9.5	8.3	B9	4	..	19655b
20	11036	46.9	-49 33	6.52	7.8	Ko	8	0,10	19895b	70	11041	47.3	-41 40	6.72	7.2	Oa	..	0,8	28,211
21	10890	46.9	-50 35	10.3	9.4	Ao	1	..	19895b	71	11096	47.3	-46 23	10.3	9.5	A2	3	..	21842b
22	969	47.0	+67 26	7.22	8.29	K2	3	..	37752i	72	11040	47.3	-50 2	7.28	8.2	Ko	7	..	19895b
23	1897	47.0	+53 5	7.13	8.13	Ko	4	0,6	37802i	73	5808	47.3	-61 29	6.9	7.1	Ao	4	0,8-	43198b
24	2795	47.0	+32 44	6.26	7.26	Ko	7	..	38412i	74	1763	47.4	+59 40	7.66	8.44	G5	7	..	37802i
25	3178	47.0	+19 29	7.9	7.9	Ao	3	..	38775i	75	3006	47.4	+23 48	7.52	8.52	Ko	3	..	38775i
26	3259	47.0	+7 53	9.1	9.6	F8	5	..	19012b	76	3063	47.4	+15 7	var.	var.	Md	..	R	M
27	4514	47.0	-13 51	9.3	9.4	A3	2	..	39477b	77	3284	47.4	+4 58	8.56	9.63	K2	4	..	19012b
28	11758	47.0	-25 6	8.45	8.6	F2	7	..	40302b	78	3295	47.4	+3 41	10.1	11.1	Ko	2	..	40290b
29	12530	47.0	-28 17	8.2	8.8	Ko	5	..	40086b	79	3294	47.4	+3 12	10.1	11.3	K5	1	..	40290b
30	12120	47.0	-32 46	11.0	10.2	A2	2	..	39202b	80	3328	47.4	+1 32	9.8	10.4	Go	2	..	40290b
31	11056	47.0	-37 21	9.5	9.8	G5	2	..	22853b	81	4015	47.4	-3 25	10.3	10.3	A	1	..	39474b
32	11291	47.0	-38 6	9.5	11.4	K2	1	..	38109b	82	12910	47.4	-24 15	9.8	10.2	Ko	3	..	40302b
33	11025	47.0	-41 37	7.7	7.0	B	..	R	M	83	12909	47.4	-24 57	10.3	10.2	Ao	3	..	40302b
34	11024	47.0	-41 39	5.34	5.8	Bo	..	R	28,211	84	11762	47.4	-25 33	9.6	10.3	Ko	1	..	40302b
35	11021	47.0	-41 50	6.18	6.7	Bo	3	..	4963b	85	11643	47.4	-26 4	10.8	10.3	A2	1	..	40441b
36	11633	47.0	-42 12	4.88	4.66	B1p	..	R	28,211	86	12539	47.4	-28 15	10.3	9.1	B5	3	..	40086b
37	6860	47.0	-59 15	7.3	7.8	F5	3	..	36326b	87	13576	47.4	-30 15	8.04	8.4	A5	7	..	39202b
38	2223	47.1	+46 49	6.94	8.01	K2	6	..	37609i	88	11538	47.4	-33 19	9.5	10.2	K2	2	..	39202b
39	3059	47.1	+11 36	9.8	9.9	A2	1	..	19012b	89	11316	47.4	-34 15	10.5	10.1	A3	1	..	39202b
40	4014	47.1	-3 48	8.2	9.2	Ko	4	..	39474b	90	11063	47.4	-37 25	8.9	9.8	G5	4	..	22853b
41	4455	47.1	-20 1	8.73	9.1	A2	3	..	40331b	91	10897	47.4	-40 29	8.8	8.6	B8	2	..	19655b
42	12124	47.1	-32 11	8.8	9.3	Go	5	..	39202b	92	10896	47.4	-40 52	9.1	8.6	B8	3	..	19655b
43	12125	47.1	-32 36	10.1	10.2	Go	2	..	39202b	93	11642	47.4	-42 19	5.78	6.7	F5	..	..	28,211
44	11531	47.1	-33 59	10.3	10.2	Ao	2	..	39202b	94	11256	47.4	-44 17	9.7	9.4	Ao	3	..	19655b
45	10883	47.1	-40 22	8.5	8.0	B5	5	..	19655b	95	11050	47.4	-45 56	7.9	10.0	Ko	2	..	21842b
46	10884	47.1	-40 55	7.9	7.2	B3	6	..	19655b	96	11052	47.4	-45 56	11.6	10.0	F8	1	..	21842b
47	11035	47.1	-41 29	9.5	7.4	B2	6	..	19655b	97	11284	47.4	-48 28	9.5	9.4	A2	4	..	21842b
48	11033	47.1	-41 39	7.3	6.2	B	..	R	M	98	11285	47.4	-48 37	7.6	8.2	B9	10	..	21842b
49	11036	47.1	-41 41	6.02	7.3	Bo	..	..	28,211	99	3039	47.4	-66 49	9.0	9.0	Ao	3	..	42473b
50	11252	47.1	-44 44	7.54	8.2	Fo	7	..	21842b	100	2845	47.4	-68 32	9.7	10.9	K5	1	..	42473b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

152300

16<sup>h</sup> 47<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
		m.	° ' "									m.	° ' "						
1	2846	47.4	-68 42	9.7	9.7	Ao	2	..	42473b	51	11306	47.7	-39 3	10.3	11.2	Go	1	..	22853b
2	1233	47.4	-77 23	8.8	9.6	G5	3	..	42633b	52	10835	47.7	-39 34	11.0	11.2	Fo	1	..	38109b
3	634	47.5	+77 41	6.01	6.35	F2	8	..	37240i	53	10909	47.7	-40 44	10.3	8.6	B3	4	..	19655b
4	3068	47.5	+40 17	9.4	10.2	G5	1	..	38773i	54	11648	47.7	-42 19	9.5	8.9	Ao	3	..	19655b
5	2860	47.5	+34 27	8.1	8.7	Go	3	..	38412i	55	11261	47.7	-44 55	8.82	9.1	G5	3	..	19655b
6	2623	47.5	+28 17	6.94	7.72	G5	7	..	38770i	56	11101	47.7	-46 37	10.3	9.5	A5	4	..	21842b
7	3342	47.5	+20 44	7.18	8.18	Ko	6	..	38775i	57	11127	47.7	-47 45	8.9	8.5	B8	7	..	21842b
8	3066	47.5	+15 9	6.41	6.41	Aop	7	1,7 R	37218i	58	10901	47.7	-50 29	9.7	8.9	B5	2	..	19895b
9	3060	47.5	+11 52	9.3	9.8	F8	2	..	19012b	59	10324	47.7	-53 2	9.4	9.4	Ao	1	..	19895b
10	3279	47.5	+4 27	8.6	8.9	F2	6	..	19012b	60	1706	47.8	+60 18	8.2	8.5	F2	3	..	37802i
11	4572	47.5	-20 15	5.91	7.0	G5	..	5,10	56,139	61	1764	47.8	+59 10	9.0	9.4	F5	3	..	37802i
12	12912	47.5	-24 32	10.8	10.9	G	2	..	40302b	62	3086	47.8	+10 37	9.1	9.6	F8	4	..	19012b
13	12968	47.5	-29 13	8.4	9.0	Ko	4	..	40086b	63	4343	47.8	-8 10	8.9	9.9	Ko	2	..	40597b
14	11050	47.5	-41 39	8.8	8.0	B	5	..	19655b	64	4347	47.8	-19 1	10.1	10.1	Ao	1	..	40331b
15	11098	47.5	-47 0	11.0	9.7	Ao	2	..	21842b	65	4459	47.8	-19 15	9.5	9.1	B9	2	..	40331b
16	11126	47.5	-47 3	9.3	9.5	A2	3	..	21842b	66	12916	47.8	-24 55	7.90	8.0	B8	7	..	40302b
17	11125	47.5	-47 13	9.3	8.8	B9	6	..	21842b	67	11248	47.8	-27 27	9.1	9.1	F5	3	..	40086b
18	11124	47.5	-47 57	9.0	9.7	Ma	2	..	21842b	68	11052	47.8	-36 39	10.1	10.1	Ao	2	..	38109b
19	7902	47.5	-54 25	9.2	9.6	F5	3	..	19895b	69	11067	47.8	-37 57	9.1	8.7	A2	7	..	22853b
20	7741	47.5	-55 11	9.2	9.8	F5	3	..	19954b	70	11264	47.8	-44 24	9.3	9.7	Ko	1	5,1	21842b
21	6863	47.5	-60 0	8.12	8.1	B9	6	..	13775b	71	11131	47.8	-47 44	9.5	9.4	A2	4	..	21842b
22	4035	47.5	-64 2	7.7	8.3	Go	4	..	13775b	72	11288	47.8	-48 39	9.1	8.9	B3	6	..	21842b
23	3375	47.5	-65 36	8.3	8.3	Ao	6	0,4	42473b	73	5810	47.8	-61 50	8.9	8.4	Ao	3	..	13775b
24	2848	47.5	-68 18	8.3	9.4	K2	4	..	42473b	74	2009	47.8	-72 23	8.9	9.4	F8	2	..	20270b
25	2847	47.5	-68 47	9.6	10.6	Ko	1	..	39343b	75	872	47.9	+69 14	7.36	7.36	Ao	7	..	37752i
26	3069	47.6	+24 50	5.20	6.20	Ko	9	..	38770i	76	888	47.9	+68 1	7.66	8.66	Ko	3	..	37752i
27	3008	47.6	+23 48	8.5	9.5	Ko	1	..	38775i	77	2754	47.9	+42 14	7.60	8.16	Go	5	..	38773i
28	3061	47.6	+11 26	7.10	8.28	K5	2	..	37218i	78	3054	47.9	+39 39	9.8	10.4	Go	2	..	38773i
29	4226	47.6	-11 31	8.20	8.26	A2	7	..	39477b	79	2848	47.9	+38 6	8.8	9.8	Ko	2	..	38773i
30	11163	47.6	-35 51	9.5	9.3	Ao	3	..	22853b	80	2624	47.9	+28 50	6.52	6.94	F5	8	..	38770i
31	11065	47.6	-37 56	8.5	8.7	F8	6	..	22853b	81	3193	47.9	+2 25	9.8	10.6	G5	1	..	40290b
32	10833	47.6	-39 30	9.5	9.8	B8	2	..	19655b	82	12980	47.9	-29 14	8.0	9.0	Ko	4	..	40086b
33	11055	47.6	-41 16	8.8	8.0	B3	4	..	19655b	83	11545	47.9	-33 11	8.8	8.4	A2	5	..	22853b
34	11646	47.6	-42 12	3.75	5.6	K5	..	R	28,211	84	11546	47.9	-33 19	6.94	7.3	Ao	9	..	22853b
35	11222	47.6	-43 24	7.0	7.6	F8	8	..	19655b	85	10916	47.9	-40 54	9.5	8.9	B5	2	..	19655b
36	11054	47.6	-45 20	8.3	8.8	Ao	7	..	21842b	86	11266	47.9	-44 50	8.08	8.8	Oe	4	..	76,29
37	10323	47.6	-52 29	8.3	7.9	Ao	7	..	19895b	87	11102	47.9	-46 34	9.2	8.5	A2	6	..	21842b
38	8226	47.6	-53 5	10.0	10.1	A2	1	..	19895b	88	6673	47.9	-60 48	8.3	9.3	G5	1	..	13775b
39	1775	47.6	-73 16	6.95	6.6	B9	9	..	20270b	89	2801	48.0	+32 22	8.6	9.6	Ko	3	..	20914i
40	697	47.6	-83 2	9.0	10.2	K5	1	..	43458b	90	3309	48.0	+6 52	9.8	10.9	K2	1	..	19012b
41	2656	47.7	+43 8	9.0	9.6	G	1	..	38773i	91	3593	48.0	+0 12	6.78	7.56	G5	8	R	37801i
42	3150	47.7	+25 34	6.90	7.24	F2	5	..	38770i	92	4369	48.0	-7 17	8.0	8.5	F8	7	..	40597b
43	3285	47.7	+5 5	9.5	10.5	Ko	1	..	19012b	93	4403	48.0	-10 36	8.6	9.0	F5	4	..	39477b
44	3265	47.7	-1 34	9.8	9.9	A2	2	..	39474b	94	4227	48.0	-11 36	8.7	8.7	Ao	5	..	39477b
45	4342	47.7	-8 14	9.5	10.5	Ko	1	..	40597b	95	4460	48.0	-19 9	8.6	8.2	Go	5	..	40331b
46	12548	47.7	-28 47	8.1	8.2	Ao	7	..	40086b	96	12922	48.0	-24 58	9.50	11.1	Ko	1	..	40302b
47	12975	47.7	-29 58	9.63	9.9	F5	3	..	39202b	97	11656	48.0	-26 35	9.8	9.7	Go	3	..	40086b
48	13581	47.7	-30 36	8.47	8.4	A2	5	..	39202b	98	11655	48.0	-26 40	10.3	9.7	Go	1	..	40086b
49	11307	47.7	-38 24	8.1	8.3	Ao	6	..	22853b	99	11254	48.0	-27 48	11.0	9.7	Ao	1	..	40086b
50	11304	47.7	-38 29	9.5	9.2	A2	4	..	22853b	100	11255	48.0	-27 57	9.6	9.4	Go	1	..	40086b

## THE HENRY DRAPER CATALOGUE.

152400

16<sup>h</sup> 48<sup>m</sup>.0

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	12554	48.0	-28 31	10.5	10.3	Go	1	..	40086b	51	4611	48.3	-12 53	9.3	9.4	A5	2	..	39477b
2	13336	48.0	-32 0	10.3	9.1	B9	4	..	39202b	52	4441	48.3	-21 7	9.9	10.9	Ko	1	..	40302b
3	11054	48.0	-36 4	8.1	9.2	Ko	3	..	22853b	53	11773	48.3	-25 38	8.2	8.2	A2	7	..	40086b
4	11056	48.0	-36 43	var.	var.	Go	4	R	38109b	54	11258	48.3	-27 25	8.4	8.0	Ao	7	..	40086b
5	10918	48.0	-40 22	7.31	6.7	B3	7	..	19655b	55	12562	48.3	-28 24	9.3	9.7	Ko	2	..	40086b
6	10920	48.0	-40 25	8.1	9.8	K5	1	..	19655b	56	11316	48.3	-38 15	7.18	7.2	B8	9	..	22853b
7	10922	48.0	-40 56	9.5	9.5	B	3	..	19655b	57	10933	48.3	-40 48	10.5	8.6	B8	2	R	19655b
8	10919	48.0	-41 0	6.03	5.6	Oep	..	R	28,212	58	10933	48.3	-40 48	10.5	8.6	B8	2	R	19655b
9	11651	48.0	-42 39	9.9	9.2	Ao	3	..	19655b	59	11073	48.3	-41 25	9.5	8.9	B9	4	..	19655b
10	11291	48.0	-48 55	10.1	10.2	K2	1	..	21842b	60	8176	48.3	-57 13	8.8	9.2	Ao	5	..	19954b
11	11049	48.0	-49 14	9.7	9.1	Go	4	..	21842b	61	3044	48.3	-66 21	8.8	10.0	K5	1	..	42473b
12	6934	48.0	-58 21	9.0	10.2	B9	1	..	19954b	62	3043	48.3	-66 53	8.2	9.0	G5	4	..	42473b
13	3041	48.0	-66 42	9.0	9.0	Ao	3	..	42473b	63	1235	48.3	-77 56	7.3	7.3	Ao	8	..	42633b
14	2445	48.1	+48 30	7.70	8.70	Ko	3	..	37609i	64	1120	48.3	-78 26	9.7	10.0	Fo	2	..	19008b
15	2850	48.1	+38 42	8.7	9.7	Ko	2	..	38773i	65	2141	48.4	+51 18	8.1	9.1	Ko	3	..	37609i
16	3062	48.1	+11 4	9.3	9.3	Ao	3	..	19012b	66	3310	48.4	+6 0	9.8	10.1	Fo	3	..	19012b
17	4187	48.1	-4 36	9.5	10.1	Go	1	..	39474b	67	3194	48.4	+1 59	9.3	9.6	Fo	4	..	40290b
18	4646	48.1	-17 49	7.7	8.7	Ko	6	..	40331b	68	3332	48.4	+1 31	8.1	8.4	Fo	5	..	37801i
19	4350	48.1	-18 45	8.8	8.8	Ao	4	..	40331b	69	4346	48.4	-8 49	8.4	9.4	Ko	3	..	40597b
20	12924	48.1	-24 19	10.1	8.9	A3	5	..	40302b	70	4461	48.4	-19 12	9.5	9.4	Go	1	..	40331b
21	11660	48.1	-26 8	9.8	10.3	G5	1	..	40302b	71	12985	48.4	-29 10	10.1	9.7	F8	3	..	40086b
22	13588	48.1	-30 34	8.09	9.3	Ko	3	..	39202b	72	12984	48.4	-29 59	10.5	10.2	Ao	2	..	39202b
23	10845	48.1	-39 32	11.9	10.4	Ao	2	..	38109b	73	13598	48.4	-30 49	7.40	8.4	Ko	5	..	39202b
24	11068	48.1	-41 56	7.3	6.9	Bo	..	..	28,212	74	11062	48.4	-36 11	9.1	10.7	K5	1	..	38109b
25	2619	48.2	+44 20	8.00	8.50	F8	3	3,6	38773i	75	11317	48.4	-38 38	9.5	11.4	Ko	1	..	22853b
26	4352	48.2	-18 32	9.9	10.0	A2	2	..	40331b	76	11274	48.4	-44 56	var.	var.	Md	..	R	M
27	4351	48.2	-18 35	9.0	10.1	K2	2	..	40331b	77	11137	48.4	-48 0	9.5	9.7	B2	4	..	17084b
28	12966	48.2	-23 49	9.8	9.8	F8	2	..	40302b	78	10905	48.4	-50 31	6.57	6.7	B3p	..	1,5 R	56,139
29	11770	48.2	-25 40	7.10	7.6	F8	8	..	40086b	79	6866	48.4	-59 7	8.9	9.6	G5	2	..	19954b
30	12557	48.2	-28 55	9.4	9.7	F8	2	..	40086b	80	3045	48.4	-66 29	9.3	9.3	Ao	3	..	42473b
31	13594	48.2	-30 26	6.33	7.0	A5	9	5,10	40086b	81	3070	48.5	+15 3	8.37	9.37	Ko	3	..	37218i
32	13341	48.2	-31 11	8.6	8.8	Go	5	..	39202b	82	3065	48.5	+11 2	6.92	8.10	K5	3	..	37218i
33	13340	48.2	-32 2	7.5	7.9	F8	7	..	39202b	83	3265	48.5	+7 40	9.1	10.2	K2	2	..	19012b
34	10847	48.2	-39 11	9.1	9.8	B8	3	..	22853b	84	4191	48.5	-4 9	7.74	8.52	G5	6	..	39474b
35	10849	48.2	-39 25	9.9	10.1	B5	2	..	38109b	85	12930	48.5	-24 11	11.3	11.1	A3	1	..	40302b
36	10926	48.2	-40 10	8.8	9.2	B8	3	..	19655b	86	11776	48.5	-25 4	10.3	10.2	F5	3	..	40302b
37	11071	48.2	-41 47	10.1	9.2	Ao	3	..	19655b	87	12139	48.5	-32 5	10.5	9.9	A2	2	..	39202b
38	11062	48.2	-45 11	8.32	8.2	B8	7	..	21842b	88	12140	48.5	-32 48	9.1	9.9	K2	2	..	39202b
39	11134	48.2	-47 18	9.5	9.7	Ko	2	..	21842b	89	11178	48.5	-35 40	9.2	9.3	A2	2	..	22853b
40	10592	48.2	-51 44	8.1	8.5	G5	5	..	19895b	90	10939	48.5	-40 50	7.7	7.4	A2	7	..	19655b
41	7897	48.2	-56 35	10.1	10.1	Ao	1	..	19954b	91	11233	48.5	-43 9	6.8	7.2	Ao	10	..	19655b
42	6935	48.2	-58 31	9.0	10.2	K2	1	..	19954b	92	10332	48.5	-52 29	9.4	9.4	B8	2	..	19895b
43	3257	48.2	-67 22	7.7	7.7	Ao	8	..	42473b	93	3377	48.5	-65 3	6.60	7.3	A3p	..	2,9 R	56,139
44	1338	48.2	-75 51	8.9	9.9	Ko	2	..	42633b	94	1236	48.5	-77 29	9.6	9.7	A3	2	..	42633b
45	2997	48.3	+21 8	7.9	9.1	K5	3	..	38775i	95	2878	48.6	+35 39	7.7	8.9	K5	3	..	38412i
46	3261	48.3	+18 14	6.87	7.29	F5	6	..	38775i	96	3292	48.6	+8 15	9.1	9.6	F8	4	..	19012b
47	3063	48.3	+11 28	7.9	7.9	Ao	5	..	37218i	97	3195	48.6	+2 33	9.8	9.9	A5	2	..	40290b
48	3298	48.3	+3 10	8.1	8.9	G5	4	..	37801i	98	4370	48.6	-7 12	8.8	9.3	F8	4	..	40597b
49	3197	48.3	-0 58	7.68	8.18	F8	5	..	37801i	99	4498	48.6	-14 12	8.6	9.2	Go	3	..	39477b
50	4020	48.3	-3 22	8.6	8.9	Fo	5	5,2	39474b	100	11663	48.6	-26 15	7.5	8.5	Fo	7	..	40086b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

152500

16<sup>h</sup> 48<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11262	48.6	-27 36	7.6	8.6	G5	5	..	40086b	51	2142	48.9	+50 57	7.9	8.9	Ko	5	..	37609i
2	12571	48.6	-28 15	10.3	10.9	Ko	1	..	40441b	52	3295	48.9	+ 8 9	8.9	10.0	K2	3	..	19012b
3	12570	48.6	-29 2	10.3	10.9	Go	1	..	40441b	53	3196	48.9	+ 2 39	9.5	10.5	Ko	2	..	40290b
4	10862	48.6	-39 19	8.8	8.9	B8	5	..	38109b	54	3334	48.9	+ 0 57	9.5	10.5	Ko	1	..	40290b
5	11295	48.6	-48 53	9.3	8.8	B8	6	..	21842b	55	4194	48.9	- 4 11	7.60	8.16	Go	7	..	39474b
6	10907	48.6	-51 0	9.7	9.1	Ao	4	..	19895b	56	4513	48.9	- 6 33	8.8	10.0	K5	3	..	40597b
7	10595	48.6	-51 41	9.1	8.5	B8	5	..	19895b	57	4614	48.9	-12 59	9.0	10.0	Ko	1	..	39477b
8	7908	48.6	-54 9	9.2	9.8	F8	2	..	19895b	58	12580	48.9	-28 54	10.3	10.0	A2	2	..	40086b
9	7748	48.6	-55 7	9.17	10.1	K5	3	..	19954b	59	10949	48.9	-40 37	9.4	8.3	B5	5	..	19655b
10	6938	48.6	-58 33	8.8	8.2	B9	8	..	19954b	60	10948	48.9	-40 52	8.8	8.1	B5	4	..	19655b
11	6676	48.6	-60 27	6.81	7.1	B8	4	0.9	43198b	61	11067	48.9	-45 54	9.3	9.1	Ao	5	..	21842b
12	5470	48.6	-63 1	8.9	8.9	Ao	3	..	39370b	62	7910	48.9	-54 16	9.0	9.2	Ao	6	..	19895b
13	3259	48.6	-67 38	9.1	9.2	A2	4	..	42473b	63	8180	48.9	-57 45	9.1	9.8	F8	4	..	19954b
14	3294	48.7	+ 8 46	9.1	10.2	K2	2	..	19012b	64	2666	48.9	-69 7	6.01	6.01	Ao	8	..	43874b
15	4347	48.7	- 8 8	8.8	8.9	A2	5	..	40597b	65	700	48.9	-82 11	7.24	7.3	Ao	6	..	43414b
16	4443	48.7	-21 43	8.08	7.9	B5	7	..	40302b	66	2459	49.0	+45 46	8.6	9.6	K	3	..	37609i
17	4442	48.7	-21 53	8.55	8.6	A2	5	..	40302b	67	2629	49.0	+28 24	9.4	10.2	G5	2	..	20914i
18	4239	48.7	-22 41	9.9	10.3	K5	1	..	40302b	68	3089	49.0	+10 47	10.1	10.1	Ao	2	..	19012b
19	12993	48.7	-29 41	8.0	7.8	Ao	7	..	39202b	69	3268	49.0	- 1 27	6.21	6.49	Fo	10	..	37801i
20	13349	48.7	-31 4	8.30	9.1	G5	4	..	39202b	70	4579	49.0	-20 38	8.9	8.9	Ko	4	..	40302b
21	13348	48.7	-31 15	6.85	7.3	Ao	9	..	39202b	71	12971	49.0	-23 6	10.1	10.3	K2	1	..	40302b
22	11078	48.7	-37 24	9.1	9.8	K2	3	..	38109b	72	12584	49.0	-28 54	9.8	10.3	Ko	1	..	40086b
23	10865	48.7	-39 15	9.5	10.1	B8	3	..	38109b	73	12998	49.0	-29 37	9.4	9.9	A3	2	..	40441b
24	10870	48.7	-39 21	7.33	9.2	K5	4	0.4	22853b	74	12151	49.0	-32 21	7.24	7.7	F5	8	..	39202b
25	10869	48.7	-39 24	11.0	9.8	A2	2	..	22853b	75	12152	49.0	-32 56	9.5	11.0	K5	2	R	39202b
26	11057	48.7	-49 57	8.82	8.6	Ao	6	..	19895b	76	11086	49.0	-37 44	8.9	8.9	A2	5	..	22853b
27	10333	48.7	-52 8	6.16	6.6	Ao	8	..	41738b	77	8181	49.0	-57 58	8.9	9.2	B9	6	..	19954b
28	5471	48.7	-62 25	8.5	9.9	Mb	2	..	39370b	78	1841	49.1	+53 57	8.8	9.1	F	2	..	37802i
29	2099	48.7	-71 47	8.4	9.4	Ko	3	0.2	20270b	79	2758	49.1	+42 37	8.3	8.7	F5	3	..	38773i
30	899	48.8	+70 17	9.2	10.0	G5	1	..	37752i	80	3074	49.1	+15 18	8.19	9.37	K5	3	..	37218i
31	3072	48.8	+15 34	7.48	7.48	Ao	5	..	38775i	81	3102	49.1	+12 7	8.0	9.0	Ko	3	..	19012b
32	3266	48.8	+ 7 7	9.5	9.6	A3	3	..	19012b	82	3198	49.1	+ 2 0	8.7	9.7	Ko	2	..	37801i
33	4499	48.8	-14 26	9.2	10.0	G5	1	..	39477b	83	3335	49.1	+ 1 17	8.7	9.7	Ko	2	..	37801i
34	12968	48.8	-23 21	7.04	7.9	Ko	8	..	40302b	84	3199	49.1	- 0 51	9.5	10.3	G5	1	..	39474b
35	12935	48.8	-24 21	8.4	8.2	F5	7	..	40302b	85	4231	49.1	-11 38	6.47	6.47	Ao	6	0.9	11019b
36	12574	48.8	-29 0	10.1	9.8	Ao	2	..	40086b	86	4581	49.1	-20 45	10.1	10.0	G5	1	..	40302b
37	12995	48.8	-29 9	8.1	9.3	G5	3	..	40086b	87	4580	49.1	-20 55	9.2	10.0	F2	2	..	40302b
38	13351	48.8	-31 16	8.8	9.1	Go	3	..	39202b	88	4445	49.1	-21 48	var.	var.	Mc	1	R	40302b
39	12146	48.8	-32 28	var.	var.	K2	3	R	39202b	89	11087	49.1	-37 46	9.5	9.8	F8	2	..	38109b
40	11668	48.8	-42 55	8.3	8.1	B9	7	..	19655b	90	10956	49.1	-40 11	8.1	8.3	B5	4	..	19655b
41	11115	48.8	-46 42	7.7	7.4	B8	10	..	21842b	91	10952	49.1	-40 31	9.5	8.0	B5	5	..	19655b
42	11114	48.8	-47 3	10.3	10.0	K2	1	..	21842b	92	11672	49.1	-42 14	9.5	9.2	Ao	4	..	19655b
43	11141	48.8	-47 8	9.5	9.7	K2	2	..	21842b	93	11673	49.1	-42 27	9.3	8.7	B9	5	..	19655b
44	11140	48.8	-47 34	7.5	7.8	A3	9	..	21842b	94	11145	49.1	-47 44	11.6	10.0	K2	1	..	17084b
45	10909	48.8	-51 0	9.5	8.5	Ao	6	..	19895b	95	10335	49.1	-52 36	9.0	8.5	Ao	7	..	19895b
46	8179	48.8	-57 37	9.4	10.4	Ko	1	R	19954b	96	1928	49.2	+56 20	9.3	10.3	K	1	..	37802i
47	2665	48.8	-69 17	8.8	10.0	K5	2	..	42473b	97	2448	49.2	+48 24	8.8	9.8	Ko	1	..	37609i
48	1586	48.8	-74 48	9.0	9.0	Ao	4	..	42633b	98	2925	49.2	+31 52	5.35	5.63	Fo	10	..	20914i
49	1121	48.8	-78 20	8.8	10.0	K5	3	..	19008b	99	3075	49.2	+15 15	9.04	9.54	F8	1	..	37218i
50	1927	48.9	+56 30	8.6	9.6	Ko	2	..	37802i	100	4023	49.2	- 4 0	7.64	8.42	G5	6	..	39474b

## THE HENRY DRAPER CATALOGUE.

152600

16<sup>h</sup> 49<sup>m</sup>.2

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4374	49.2	- 6 0	5.35	6.35	Ko	10	..	40597b	51	10605	49.5	-51 6	10.6	9.4	A	2	..	19895b
2	4357	49.2	-18 37	9.9	9.9	A	2	..	40331b	52	3260	49.5	-67 3	7.7	8.3	Go	6	..	42473b
3	4358	49.2	-18 43	7.8	7.9	A2	3	..	8371b	53	2852	49.5	-68 37	9.6	10.6	Ko	1	..	42473b
4	11674	49.2	-26 19	11.0	9.8	Ao	2	..	40086b	54	3077	49.6	+15 48	7.22	7.64	F5	5	..	38775i
5	13357	49.2	-31 10	8.8	8.7	A5	5	..	39202b	55	4449	49.6	-21 25	6.83	7.0	B8	10	..	40302b
6	13358	49.2	-31 54	9.6	10.5	K5	1	..	39202b	56	4448	49.6	-21 33	10.5	9.8	Ao	2	..	40302b
7	12156	49.2	-32 59	8.8	9.0	F5	5	..	39202b	57	11789	49.6	-25 23	7.40	7.8	B8	8	..	40302b
8	11338	49.2	-34 20	9.2	9.8	Ko	3	..	39202b	58	11679	49.6	-27 0	9.6	9.7	A2	2	0,2	40086b
9	11147	49.2	-47 40	10.1	10.0	K2	1	..	17084b	59	11277	49.6	-27 30	10.8	9.8	A2	1	..	40086b
10	11306	49.2	-48 13	11.0	9.9	Ao	2	..	17084b	60	12595	49.6	-28 27	11.3	10.9	A2	1	..	40086b
11	3582	49.2	-64 29	8.5	9.5	Ko	3	..	39370b	61	12597	49.6	-28 51	8.6	8.9	A2	6	..	40086b
12	1843	49.3	+54 12	8.8	9.8	Ko	2	..	37802i	62	11575	49.6	-33 43	11.0	10.8	F5	1	..	39202b
13	3077	49.3	+24 5	8.8	9.9	K2	1	..	38775i	63	11191	49.6	-35 18	9.9	9.8	A3	2	..	39202b
14	3092	49.3	+10 20	4.29	4.24	B8	..	R	56,94	64	11074	49.6	-36 59	10.5	9.8	B9	2	..	38109b
15	3298	49.3	+ 8 35	8.1	8.6	F8	8	..	19012b	65	11097	49.6	-37 7	10.1	10.1	K5	1	..	38109b
16	4233	49.3	-11 24	9.2	9.8	Go	2	..	39477b	66	10898	49.6	-39 28	var.	var.	Mc	1	R	38109b
17	12588	49.3	-28 10	9.6	9.7	Ko	2	..	40086b	67	10975	49.6	-40 40	6.40	6.9	Bo	6	0,10	4963b
18	13005	49.3	-29 7	7.75	8.7	Ko	6	..	40086b	68	8183	49.6	-57 37	7.3	8.0	B9	3	..	36326b
19	13612	49.3	-30 30	10.5	9.6	Ao	3	..	39202b	69	6871	49.6	-59 54	9.0	9.1	A5	4	3,3	19954b
20	11189	49.3	-35 46	9.4	9.6	Ao	3	..	22853b	70	6679	49.6	-60 33	8.6	8.7	Ao	4	..	13775b
21	11091	49.3	-37 21	8.1	8.0	A2	7	..	22853b	71	5817	49.6	-61 35	7.0	7.7	F5	7	..	13775b
22	10964	49.3	-40 20	8.1	8.0	B5	5	..	19655b	72	877	49.7	+69 5	8.6	8.7	A2	3	..	37752i
23	10961	49.3	-40 31	7.6	7.3	B3	7	..	19655b	73	1308	49.7	+63 19	8.0	8.3	Fo	2	..	38536i
24	11120	49.3	-46 8	8.0	8.2	Ao	8	..	21842b	74	1844	49.7	+54 30	7.31	8.31	Ko	5	..	37802i
25	11121	49.3	-46 52	8.4	8.8	K5	4	..	21842b	75	3596	49.7	+ 0 32	9.8	9.9	A3	2	..	40290b
26	7753	49.3	-55 18	10.1	10.1	Ao	2	..	19954b	76	4376	49.7	- 5 47	9.3	9.4	A2	3	..	40597b
27	R	49.3	-58 3	..	..	Ma	..	..	M	77	4516	49.7	- 6 30	6.92	7.92	Ko	8	..	40597b
28	754	49.4	+72 7	8.8	9.3	F8	2	..	37752i	78	4348	49.7	- 8 13	8.2	9.3	K2	5	..	40597b
29	2999	49.4	+21 21	8.1	9.1	Ko	4	..	38775i	79	4467	49.7	- 9 15	9.5	9.6	A2	3	..	40597b
30	4375	49.4	- 5 33	9.2	10.2	Ko	2	..	40597b	80	4234	49.7	-11 9	7.7	8.1	F5	7	..	39477b
31	4464	49.4	-19 17	9.0	8.9	Fo	3	..	40331b	81	12977	49.7	-23 52	9.3	8.8	Fo	5	..	40302b
32	4446	49.4	-21 31	9.5	10.0	Ko	1	..	40302b	82	11577	49.7	-33 29	10.8	11.0	Ko	1	..	39202b
33	4243	49.4	-22 53	10.3	10.0	K5	1	..	40302b	83	11578	49.7	-33 57	9.5	10.2	Ko	3	..	39202b
34	12590	49.4	-28 9	9.6	10.3	K2	1	..	40086b	84	11196	49.7	-35 20	8.6	8.6	Ao	4	..	22853b
35	13366	49.4	-31 19	7.34	7.7	B8	7	..	39202b	85	10980	49.7	-41 0	7.5	7.4	B5	7	..	19655b
36	11570	49.4	-33 21	6.42	8.1	K2	7	..	22853b	86	11686	49.7	-42 13	9.2	8.6	B5	4	..	19655b
37	11071	49.4	-37 2	7.42	8.0	G5	7	..	22853b	87	11076	49.7	-45 59	8.6	8.8	Ao	7	..	21842b
38	11092	49.4	-37 28	11.0	10.1	Ao	1	..	38109b	88	8238	49.7	-53 8	8.5	9.6	K2	4	..	19895b
39	11094	49.4	-37 54	10.1	9.6	F2	3	..	22853b	89	7914	49.7	-54 43	9.5	9.6	A2	2	..	19954b
40	7751	49.4	-55 42	8.8	8.6	B5	7	..	19954b	90	7900	49.7	-56 44	9.8	10.4	Go	1	..	19954b
41	6944	49.4	-58 29	8.2	9.1	Ko	4	..	19954b	91	8185	49.7	-57 38	7.3	7.3	B9	3	..	36326b
42	6945	49.4	-58 50	7.7	8.1	B9	9	..	19954b	92	5818	49.7	-62 1	8.6	9.3	Ao	2	..	13775b
43	278	49.5	+85 49	9.0	9.5	F8	2	..	37294i	93	2853	49.7	-68 13	8.4	8.5	A2	7	..	42473b
44	971	49.5	+67 46	8.0	9.0	Ko	1	..	37752i	94	3069	49.8	+40 54	9.1	10.1	Ko	1	..	38773i
45	4465	49.5	-19 22	9.0	8.8	Ao	4	..	40331b	95	3268	49.8	+ 7 29	9.3	10.3	Ko	3	..	19012b
46	11678	49.5	-26 36	9.1	9.4	Ko	1	..	40086b	96	3339	49.8	+ 1 36	9.1	10.2	K2	3	..	40290b
47	11276	49.5	-27 26	10.5	9.7	Ao	2	R	40086b	97	4466	49.8	-19 57	8.98	10.3	K5	1	..	40331b
48	10896	49.5	-39 9	9.1	9.8	A3	3	..	22853b	98	12979	49.8	-23 24	10.8	10.9	Ko	1	..	40302b
49	10897	49.5	-39 26	9.1	10.7	G5	2	..	22853b	99	13620	49.8	-30 10	9.50	10.8	Ma	1	0,1	40441b
50	11243	49.5	-43 48	8.1	8.8	A3	5	..	19655b	100	13372	49.8	-31 22	8.4	8.4	A3	5	..	39202b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

152700

16<sup>h</sup> 49<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	12166	49.8	-32 15	10.1	10.2	Go	1	..	39202b	51	4352	50.1	- 8 9	9.2	10.4	K5p	3	3.3 R	M
2	11580	49.8	-33 50	10.3	11.0	Ko	1	..	39202b	52	11286	50.1	-27 57	8.4	8.6	F8	5	..	40086b
3	11101	49.8	-37 14	10.1	9.5	Ao	2	..	38109b	53	12610	50.1	-28 35	10.5	10.5	G5	1	..	40441b
4	11337	49.8	-38 25	9.7	10.4	F8	2	..	22853b	54	11083	50.1	-36 54	8.8	8.7	A2	5	..	22853b
5	11340	49.8	-38 59	8.5	10.1	Ko	3	..	22853b	55	10990	50.1	-40 48	8.6	8.0	B5	6	..	19655b
6	11081	49.8	-45 43	11.0	9.7	Ao	1	..	21842b	56	11256	50.1	-43 34	9.5	9.4	B	2	..	19655b
7	11127	49.8	-46 44	9.5	9.7	Ko	1	..	21842b	57	11083	50.1	-45 4	9.12	8.8	Ao	6	..	21842b
8	11154	49.8	-47 4	10.1	10.0	Ao	2	..	21842b	58	10608	50.1	-51 4	8.1	9.2	K2	3	..	19895b
9	10345	49.8	-52 11	9.6	9.7	A2	1	..	19895b	59	4043	50.1	-63 30	9.5	9.5	Ao	2	..	39370b
10	4041	49.8	-63 15	8.9	9.0	A2	4	..	39370b	60	779	50.1	-81 11	8.8	8.8	Ao	6	..	43458b
11	4040	49.8	-63 29	8.2	9.2	Ko	2	..	39370b	61	1902	50.2	+53 6	8.6	8.7	A3	3	0.4	37802i
12	3380	49.8	-65 54	8.8	10.0	K5	1	..	42473b	62	3186	50.2	+19 15	8.9	9.7	G5	1	..	38775i
13	1341	49.8	-75 52	8.8	9.6	G5	2	..	42633b	63	4238	50.2	-11 17	9.3	9.4	A5	4	..	39477b
14	1767	49.9	+59 43	9.3	10.1	G5	2	..	37802i	64	4659	50.2	-17 45	8.4	9.6	K5	2	..	40331b
15	3269	49.9	+ 7 33	9.1	10.2	K2	2	..	19012b	65	13625	50.2	-30 50	9.6	9.3	A5	3	..	39202b
16	3313	49.9	+ 6 21	9.8	11.0	K5	1	..	19012b	66	12173	50.2	-33 0	8.8	8.7	A2	5	..	22853b
17	3301	49.9	+ 3 49	8.3	9.3	Ko	4	..	19012b	67	11347	50.2	-38 17	7.7	8.1	F2	7	0.5	22853b
18	4235	49.9	-11 44	8.8	9.4	Go	5	..	39477b	68	10908	50.2	-39 49	8.1	8.7	Fo	4	..	19655b
19	12981	49.9	-23 31	10.3	10.0	F8	1	..	40302b	69	10907	50.2	-39 59	9.03	9.2	B8	2	..	19655b
20	13373	49.9	-31 9	7.35	8.4	Ko	6	..	39202b	70	8248	50.2	-53 6	8.4	9.4	Ko	4	..	19895b
21	13376	49.9	-31 14	8.8	9.9	Ko	1	..	39202b	71	8249	50.2	-53 46	8.3	7.6	Ao	8	..	19895b
22	12167	49.9	-32 35	10.5	10.2	A2	1	..	39202b	72	6950	50.2	-58 20	8.9	8.7	A2	5	..	19954b
23	10986	49.9	-40 22	7.20	6.7	B3	6	..	19655b	73	1769	50.3	+59 28	8.2	9.0	G5	3	..	37802i
24	11128	49.9	-46 28	9.7	9.7	G5	2	..	21842b	74	2340	50.3	+50 2	9.27	9.83	G	2	..	37609i
25	10346	49.9	-52 27	8.9	8.5	Ao	7	..	19895b	75	3064	50.3	+16 34	8.4	9.2	G5	1	..	37218i
26	8241	49.9	-53 41	8.2	8.0	F5	8	..	19895b	76	3065	50.3	+16 29	8.3	9.1	G5	3	..	37218i
27	8244	49.9	-53 41	8.2	7.9	Ao	7	..	19895b	77	3597	50.3	+ 0 15	8.6	9.7	K2	2	..	37801i
28	7761	49.9	-55 58	9.6	11.0	Ma	..	..	M	78	4275	50.3	- 2 18	8.3	9.3	Ko	3	..	39474b
29	8186	49.9	-57 7	9.1	9.9	G5	1	..	19954b	79	4202	50.3	- 5 1	8.85	9.41	Go	4	..	39474b
30	4042	49.9	-63 28	8.4	9.2	G5	2	..	39370b	80	4354	50.3	- 8 47	9.5	10.5	Ko	1	..	40597b
31	3584	49.9	-64 37	10.0	10.0	Ao	2	..	39370b	81	4371	50.3	-16 39	6.49	7.49	Ko	5	0.10	8391b
32	702	49.9	-82 17	9.4	9.5	A2	3	..	43458b	82	4454	50.3	-21 53	10.3	9.7	B8	2	..	40302b
33	2623	50.0	+44 33	8.4	9.2	G5	3	..	37609i	83	13626	50.3	-30 25	var.	var.	Md	..	R	M
34	4237	50.0	-11 11	9.0	10.0	Ko	3	..	39477b	84	13383	50.3	-31 34	9.6	9.4	A2	3	..	39202b
35	11794	50.0	-25 51	9.1	8.9	F2	3	..	40086b	85	11695	50.3	-42 15	9.1	8.4	Ao	4	..	19655b
36	11285	50.0	-27 38	10.3	8.8	A2	5	..	40086b	86	7766	50.3	-55 50	3.06	5.8	K5	..	R	28,212
37	13025	50.0	-29 9	10.1	9.9	Ao	2	..	40086b	87	7764	50.3	-55 53	8.8	8.6	B9	3	..	19954b
38	12169	50.0	-32 37	9.5	10.4	K2	1	..	39202b	88	6952	50.3	-58 41	9.7	11.1	Mb	..	..	M
39	11584	50.0	-33 56	10.5	10.2	F5	2	..	39202b	89	4044	50.3	-63 28	8.9	9.0	A2	3	..	39370b
40	11350	50.0	-34 9	10.1	9.2	Ao	4	..	39202b	90	2103	50.3	-71 56	9.3	10.3	Ko	1	..	20270b
41	11691	50.0	-42 7	10.3	9.5	Ao	2	..	19655b	91	1846	50.4	+54 44	8.2	9.2	Ko	3	..	37802i
42	11692	50.0	-42 48	8.9	7.8	B3	6	..	19655b	92	2659	50.4	+42 58	6.74	7.30	Go	7	..	38773i
43	11082	50.0	-45 43	9.3	9.1	B8	4	..	21842b	93	2767	50.4	+41 46	8.8	9.8	Ko	3	..	38773i
44	1188	50.0	-76 47	9.0	9.0	Ao	5	..	42633b	94	2900	50.4	+30 36	8.2	8.5	F2	5	..	20914i
45	515	50.1	+79 41	8.46	9.46	Ko	2	..	37240i	95	3139	50.4	+14 44	8.3	9.5	K5	1	..	37218i
46	2856	50.1	+38 40	9.1	9.7	Go	3	..	38773i	96	4378	50.4	- 5 57	7.50	8.50	Ko	6	..	40597b
47	2896	50.1	+29 16	8.9	9.4	F8	2	..	20914i	97	11110	50.4	-38 1	9.7	9.2	B8	4	..	22853b
48	2706	50.1	+27 45	8.7	9.7	Ko	3	..	20914i	98	11092	50.4	-45 12	8.87	9.1	G5	4	..	21842b
49	3095	50.1	+10 12	8.5	8.6	A3	7	..	19012b	99	11091	50.4	-45 49	8.4	8.8	B5	5	..	21842b
50	4519	50.1	- 6 10	10.1	10.2	A5	3	..	40597b	100	3586	50.4	-64 31	9.3	9.3	Ao	1	..	13775b

## THE HENRY DRAPER CATALOGUE.

152800

16<sup>h</sup> 50<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	2660	50.5	+43 31	8.6	9.4	G5	2	..	38773i	51	11357	50.8	-39 2	9.4	10.7	B8	3	..	22853b
2	3269	50.5	-1 57	10.5	10.6	A2	2	..	39474b	52	11009	50.8	-40 27	10.1	10.7	G5	1	..	38109b
3	13391	50.5	-31 37	10.3	9.1	A3	2	..	39202b	53	11098	50.8	-45 50	7.9	7.9	B3	8	..	21842b
4	13392	50.5	-31 50	8.4	8.7	B8	4	..	39202b	54	11163	50.8	-47 6	10.1	10.0	K2	1	..	21842b
5	12178	50.5	-32 11	7.41	7.8	A2	8	..	39202b	55	10360	50.8	-52 35	9.0	8.6	A3	6	..	19895b
6	12180	50.5	-32 20	9.5	9.4	A0	2	..	39202b	56	10358	50.8	-52 47	9.6	9.7	A2	2	..	19895b
7	11352	50.5	-38 56	10.1	11.2	G5	2	..	22853b	57	10359	50.8	-52 53	8.6	9.9	K2	1	..	19895b
8	11133	50.5	-46 56	8.4	8.2	A0	8	..	21842b	58	1191	50.8	-76 14	9.2	9.3	A5	4	..	42633b
9	8197	50.5	-57 18	9.0	9.7	K2	1	..	19954b	59	1149	50.9	+64 17	8.2	9.3	K2	2	..	38536i
10	568	50.6	+78 4	8.7	9.5	G5	1	..	37240i	60	1929	50.9	+56 10	8.7	8.7	B9	4	..	37802i
11	1710	50.6	+60 39	8.6	10.0	Ma	..	..	M	61	2627	50.9	+44 33	9.2	9.2	A	2	..	37609i
12	2400	50.6	+47 34	6.30	7.30	K0	9	..	37609i	62	2763	50.9	+42 50	9.1	10.3	K5	1	..	38773i
13	2625	50.6	+43 56	7.68	8.68	K0	2	0.5	38773i	63	3156	50.9	+25 54	6.33	7.33	K0	8	..	20914i
14	2882	50.6	+35 18	8.3	8.9	Go	5	..	38412i	64	3083	50.9	+24 24	8.3	9.5	K5	1	..	38775i
15	3002	50.6	+21 8	5.48	6.48	K0	10	..	38775i	65	3272	50.9	+6 59	9.5	10.6	K2	1	..	19012b
16	4522	50.6	-7 4	9.3	10.3	K0	3	..	40597b	66	3314	50.9	+6 35	9.5	10.3	G5	3	..	19012b
17	4409	50.6	-15 12	9.00	10.18	K5	2	..	40331b	67	4459	50.9	-21 37	10.1	10.0	Go	2	..	40302b
18	4247	50.6	-23 3	10.8	10.2	A0	2	..	40302b	68	12992	50.9	-23 25	9.8	10.2	A	2	R	40302b
19	12182	50.6	-32 16	10.1	9.1	A0	1	..	39202b	69	11092	50.9	-36 41	10.1	10.7	K5	1	..	38109b
20	11590	50.6	-33 6	5.51	7.5	K5	..	3.8	56,139	70	11114	50.9	-37 39	9.9	9.2	A5	4	..	22853b
21	11353	50.6	-38 48	9.7	10.9	A2	3	..	22853b	71	11011	50.9	-40 19	10.8	10.1	B8	3	..	38109b
22	11095	50.6	-45 47	8.6	9.4	A0	4	..	21842b	72	11100	50.9	-45 24	9.2	9.2	B9	5	..	21842b
23	11135	50.6	-46 34	10.1	10.3	K2	1	..	21842b	73	11099	50.9	-45 35	8.7	9.5	K0	3	..	21842b
24	10924	50.6	-50 29	5.70	6.6	B9	..	0.8	56,139	74	1150	51.0	+65 23	8.2	9.2	K0	2	..	38536i
25	10611	50.6	-51 54	9.3	8.6	A5	5	..	19895b	75	1616	51.0	+61 49	7.8	8.8	K0	1	..	38536i
26	10357	50.6	-52 57	9.7	9.7	B9	1	..	19895b	76	2634	51.0	+28 47	8.7	9.1	F5	3	..	20914i
27	2014	50.6	-72 28	7.3	8.3	K0	7	..	20270b	77	2633	51.0	+28 17	7.12	7.40	F0	7	..	20914i
28	1847	50.7	+54 54	9.06	9.62	G	2	..	37802i	78	3005	51.0	+21 39	7.9	8.4	F8	5	..	38775i
29	3141	50.7	+14 0	8.6	9.4	G5	1	..	37218i	79	3266	51.0	+18 35	5.56	6.63	K2	7	..	38775i
30	3258	50.7	+13 47	6.16	6.50	F2	9	..	37218i	80	4412	51.0	-15 47	8.9	10.1	K5	1	..	40331b
31	3291	50.7	+5 47	9.5	10.6	K2	1	..	19012b	81	4250	51.0	-22 26	9.5	10.3	K5	1	..	40302b
32	3203	50.7	-0 59	8.9	9.7	G5	4	..	39474b	82	11299	51.0	-27 48	9.4	9.7	F8	2	..	40086b
33	4203	50.7	-4 42	9.0	9.4	F5	3	..	39474b	83	13399	51.0	-31 30	9.4	8.7	A0	3	..	39202b
34	11696	50.7	-26 49	9.1	8.5	A0	6	..	40086b	84	11115	51.0	-37 36	8.2	8.9	F8	4	..	22853b
35	11295	50.7	-27 22	9.8	9.4	Go	3	R	40086b	85	11363	51.0	-38 57	6.64	7.7	Ma	6	..	19655b
36	13394	50.7	-31 3	9.6	9.3	A3	3	..	39202b	86	11014	51.0	-40 11	9.68	9.8	F2	3	..	38109b
37	11088	50.7	-36 6	10.5	9.8	A0	3	..	38109b	87	11333	51.0	-48 53	9.7	9.7	B5	3	..	17084b
38	10916	50.7	-39 30	9.7	10.1	A0	3	..	22853b	88	10361	51.0	-52 50	9.0	8.6	A0	4	..	19895b
39	11325	50.7	-48 57	9.9	9.4	A0	3	..	17084b	89	8204	51.0	-57 23	8.5	8.5	B8	6	..	19954b
40	8256	50.7	-53 51	9.2	9.1	A0	3	..	19895b	90	8203	51.0	-57 58	8.7	9.5	K5	1	..	19954b
41	3587	50.7	-64 26	8.3	9.5	K5	1	..	13775b	91	6874	51.0	-59 35	9.0	9.0	A2	5	0.4	19954b
42	3004	50.8	+21 30	8.8	9.3	F8	1	..	38775i	92	6680	51.0	-61 1	9.7	9.7	A0	3	..	39370b
43	3347	50.8	+20 39	9.1	9.7	Go	2	..	38775i	93	3049	51.0	-66 22	7.8	8.9	K2	4	..	42473b
44	3303	50.8	+8 22	8.9	10.0	K2	2	..	19012b	94	810	51.1	+71 5	8.2	9.2	K0	1	..	38095i
45	4356	50.8	-8 55	8.2	8.3	A5	7	..	40597b	95	2902	51.1	+30 51	8.1	9.3	K5	2	..	20914i
46	4410	50.8	-15 20	8.4	9.8	Ma	1	..	40331b	96	2902	51.1	+29 12	7.30	7.44	A5	7	..	20914i
47	4663	50.8	-17 59	8.8	8.8	A0	5	..	40331b	97	3315	51.1	+6 1	8.7	8.8	A2	5	..	19012b
48	4458	50.8	-21 39	8.8	9.4	K2	3	..	40302b	98	3346	51.1	+1 34	7.9	8.9	K0	4	0.4	37801i
49	4249	50.8	-22 59	5.60	5.60	A0	..	R	56,139	99	3347	51.1	+1 16	8.9	9.5	Go	3	..	40290b
50	11296	50.8	-27 42	10.3	9.8	A3	2	..	40441b	100	4504	51.1	-14 35	9.5	10.1	G	1	..	39477b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

152900

16<sup>h</sup>51<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	11118	51.1	-37 50	7.29	7.3	B5	7	..	22853b	51	2234	51.5	+46 41	6.71	6.77	A2	9	..	37609i
2	11017	51.1	-40 11	7.33	8.7	K2	3	..	19655b	52	3072	51.5	+40 51	7.69	8.69	Ko	4	..	38773i
3	8207	51.1	-57 38	9.2	8.8	B9	3	..	19954b	53	3157	51.5	+25 39	9.1	10.5	Ma	..	..	M
4	2673	51.1	-69 16	7.8	8.8	Ko	4	..	42473b	54	3306	51.5	+ 8 53	9.3	10.3	Ko	2	..	19012b
5	2661	51.2	+43 33	7.14	8.14	Ko	6	..	38773i	55	3316	51.5	+ 6 43	10.5	11.5	Ko	1	..	19012b
6	4028	51.2	- 3 29	9.2	10.2	Ko	2	..	39474b	56	4251	51.5	-22 29	9.9	9.8	Go	2	..	40302b
7	4413	51.2	-10 48	9.0	9.5	F8	4	..	39477b	57	12996	51.5	-23 10	9.0	10.7	Ma	1	..	40302b
8	4414	51.2	-15 23	9.5	9.5	Ao	2	..	39477b	58	12969	51.5	-24 24	8.6	8.0	A3	7	..	40302b
9	4471	51.2	-19 22	6.14	7.0	B8	..	..	56,139	59	12640	51.5	-28 7	10.5	10.3	Go	2	..	40441b
10	12966	51.2	-24 17	10.5	10.3	Go	1	..	40302b	60	13409	51.5	-31 49	10.5	10.5	Ko	1	..	39202b
11	12967	51.2	-24 25	10.8	10.0	F8	2	..	40302b	61	11102	51.5	-36 30	10.8	9.8	Ao	2	..	38109b
12	11815	51.2	-25 39	var.	var.	Ao	2	R	40302b	62	11375	51.5	-38 28	9.1	11.2	K2	2	..	22853b
13	11706	51.2	-26 32	9.0	9.7	K2	3	R	40086b	63	11029	51.5	-40 15	10.1	9.8	B8	1	..	19655b
14	13641	51.2	-30 56	10.8	10.2	Ao	1	..	39202b	64	11141	51.5	-46 54	11.0	9.7	Ao	1	..	21842b
15	11367	51.2	-38 29	9.9	10.9	Ko	1	..	22853b	65	11338	51.5	-48 17	9.7	9.4	F8	3	..	17084b
16	10924	51.2	-39 14	10.3	10.7	G5	2	0,1	22853b	66	11339	51.5	-48 43	6.94	7.1	A5	10	..	19895b
17	11102	51.2	-45 46	7.9	7.6	A5	9	..	21842b	67	10935	51.5	-51 1	10.1	9.4	G5	2	..	19895b
18	11172	51.2	-47 32	11.0	9.7	A2	2	..	17084b	68	7937	51.5	-54 26	9.4	9.4	Ao	1	..	19954b
19	11335	51.2	-48 41	9.5	9.4	Go	3	..	17084b	69	6957	51.5	-58 52	8.5	10.2	Ma	1	..	19954b
20	10364	51.2	-52 53	8.1	8.3	Ko	5	..	19895b	70	1310	51.6	+63 19	8.6	9.4	G5	2	..	38536i
21	7932	51.2	-54 44	7.8	7.7	Ko	6	..	19954b	71	2821	51.6	+37 28	8.1	9.3	K5	2	..	38773i
22	7780	51.2	-55 27	8.9	9.9	Ko	1	..	19954b	72	3082	51.6	+15 32	6.62	7.62	Ko	5	0,8	38775i
23	6876	51.2	-59 11	8.0	8.1	F8	4	..	36326b	73	3317	51.6	+ 6 26	8.5	9.5	Ko	5	..	19012b
24	3588	51.2	-64 24	7.9	8.4	F8	4	..	13775b	74	3306	51.6	+ 3 49	8.7	9.1	F5	4	..	19012b
25	1930	51.3	+56 25	9.2	10.2	K	1	..	37802i	75	4280	51.6	- 2 17	9.2	9.3	A2	3	..	39474b
26	2859	51.3	+38 50	8.8	9.6	G5	2	..	38773i	76	12970	51.6	-24 53	9.3	9.8	Ko	4	..	40302b
27	2868	51.3	+34 15	8.1	8.9	G5	2	E	38499i	77	12643	51.6	-28 34	9.3	9.7	G5	3	..	40086b
28	3020	51.3	+23 31	8.6	8.7	A5	2	..	38775i	78	13412	51.6	-31 55	8.8	10.2	Ko	2	..	39202b
29	3125	51.3	+17 33	8.3	9.4	K2	1	..	38775i	79	11106	51.6	-45 59	8.4	8.2	B8	7	..	17084b
30	3348	51.3	+ 1 48	8.7	9.5	G5	3	0,3	37801i	80	10372	51.6	-53 0	4.15	6.3	K2	..	2, R	28,212
31	4667	51.3	-17 39	8.0	8.6	Go	4	..	16852b	81	7782	51.6	-55 36	9.1	9.1	Ko	3	..	19954b
32	4665	51.3	-17 47	8.7	9.7	Ko	2	..	16852b	82	5820	51.6	-61 16	var.	var.	Ma	2	R	39370b
33	11305	51.3	-27 15	9.6	9.4	F8	2	..	40086b	83	1122	51.6	-78 24	9.5	10.0	F8	2	..	19008b
34	12196	51.3	-32 25	11.0	12.4	Mb	..	..	M	84	974	51.7	+67 49	8.8	9.6	G5	2	..	37752i
35	12197	51.3	-32 46	11.5	10.8	A3	1	..	39202b	85	3077	51.7	+11 45	8.9	9.0	A2	3	..	19012b
36	11363	51.3	-34 15	9.2	8.6	B8	4	..	22853b	86	3271	51.7	- 1 55	8.1	8.6	F8	3	..	37801i
37	11211	51.3	-35 36	8.2	8.4	A2	6	..	22853b	87	12971	51.7	-24 46	8.8	8.9	G5	5	..	40302b
38	11120	51.3	-37 17	10.1	10.4	K2	1	..	38109b	88	11719	51.7	-26 15	10.8	10.0	A5	2	..	40302b
39	11371	51.3	-38 14	10.8	10.7	B9	1	..	22853b	89	11312	51.7	-27 27	7.52	7.4	Ao	8	..	40086b
40	11021	51.3	-40 55	8.1	8.1	B8	6	..	19655b	90	12645	51.7	-28 11	11.3	10.6	A3	1	..	40441b
41	11711	51.3	-42 51	8.9	8.1	Ao	5	..	19655b	91	11214	51.7	-35 33	9.5	10.1	K5	2	0,1	38109b
42	2401	51.4	+47 23	9.1	10.1	K	2	..	37609i	92	11126	51.7	-37 15	9.4	8.9	Ao	4	..	22853b
43	13046	51.4	-29 27	9.8	9.1	Ao	4	..	40086b	93	11142	51.7	-46 48	10.3	9.2	G5	3	..	21842b
44	11374	51.4	-38 18	10.5	10.4	B8	3	..	22853b	94	3387	51.7	-65 12	8.4	8.7	F2	3	..	13775b
45	11279	51.4	-43 43	9.5	9.4	Ao	3	..	19655b	95	3099	51.8	+10 24	8.9	9.5	Go	2	..	19012b
46	11092	51.4	-49 36	7.8	7.9	B8	8	..	19895b	96	3272	51.8	- 1 6	9.0	9.3	Fo	4	..	39474b
47	7934	51.4	-54 36	9.1	9.1	Ao	2	..	19954b	97	4030	51.8	- 3 40	9.9	10.7	G5	1	..	39474b
48	8210	51.4	-57 42	8.5	8.6	F2	4	..	19954b	98	4670	51.8	-18 2	9.5	9.6	A3	2	..	40331b
49	2145	51.5	+51 10	8.2	9.2	Ko	3	..	37609i	99	4462	51.8	-21 37	8.4	8.3	F2	5	..	40302b
50	2402	51.5	+47 37	9.1	9.7	G	1	..	37609i	100	11823	51.8	-25 23	10.5	10.2	Go	1	..	40302b



## THE HENRY DRAPER CATALOGUE.

153000

16<sup>h</sup> 51<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	13052	51.8	-29 42	8.8	8.7	A3	4	..	39202b	51	11327	52.0	-45 0	10.3	10.0	Ao	2	..	17084b
2	13648	51.8	-30 4	8.48	8.4	F5	5	..	39202b	52	11109	52.0	-45 13	9.9	9.4	Ao	3	..	17084b
3	12206	51.8	-32 53	8.8	9.1	F2	4	..	39202b	53	7947	52.0	-54 26	5.85	6.6	A2	..	0,8	28,212
4	11607	51.8	-33 27	var.	var.	F5	..	R	56,139	54	7949	52.0	-54 58	8.55	9.4	K5	2	..	19954b
5	11369	51.8	-34 27	9.4	8.9	Ao	4	..	22853b	55	3589	52.0	-64 6	8.4	9.8	Mb	2	..	39370b
6	11216	51.8	-36 2	9.7	10.1	Ao	3	..	38109b	56	3051	52.0	-66 16	8.8	8.9	A2	2	..	42473b
7	11127	51.8	-37 54	11.0	10.1	A2	3	..	38109b	57	2018	52.0	-72 7	9.3	9.7	F5	2	..	20270b
8	11130	51.8	-41 16	8.5	8.3	Fo	7	..	19655b	58	893	52.1	+68 5	7.9	7.9	Ao	5	E	38536i
9	11287	51.8	-43 52	9.2	9.4	Fo	2	..	19655b	59	2237	52.1	+46 26	8.2	9.6	Mb	3	..	37609i
10	11108	51.8	-45 9	9.02	9.4	Ao	4	..	17084b	60	2767	52.1	+42 3	8.8	9.9	K2	3	..	38773i
11	7945	51.8	-54 20	9.4	9.4	Ao	2	..	19954b	61	2719	52.1	+27 22	8.8	9.8	Ko	1	..	20914i
12	2675	51.8	-69 14	9.0	9.1	A2	4	..	42473b	62	3035	52.1	+22 16	7.9	8.0	A2	4	..	38775i
13	912	51.8	-79 4	9.1	10.3	K5	2	..	19008b	63	3083	52.1	+15 48	7.61	8.03	F5	7	0,8	37218i
14	703	51.8	-82 15	7.41	7.3	Fo	2	..	43414b	64	3148	52.1	+14 18	6.91	7.91	Ko	7	0,10	37218i
15	3069	51.9	+16 27	7.08	7.22	A5	6	2,10	38775i	65	3308	52.1	+3 19	9.1	9.7	G	2	E	19012b
16	3147	51.9	+14 52	10.5	11.3	G5	1	..	5404m	66	4362	52.1	-8 54	9.5	10.7	K5	1	..	40597b
17	3261	51.9	+13 24	8.3	9.7	Ma	3	..	5404m	67	4465	52.1	-21 28	9.2	9.6	Ko	3	..	40302b
18	3111	51.9	+12 12	9.1	9.6	F8	1	..	19012b	68	4254	52.1	-22 53	9.5	9.2	Ao	5	..	40302b
19	3351	51.9	+1 25	9.3	10.1	G5	1	..	40290b	69	11829	52.1	-25 54	7.5	8.8	K2	7	..	40086b
20	4031	51.9	-3 57	Cl.	Cl.	Con.	4	R	39474b	70	11729	52.1	-26 57	10.3	10.3	Ko	2	..	40086b
21	4417	51.9	-10 49	6.23	7.01	G5	9	..	39477b	71	11611	52.1	-33 39	9.5	9.3	F5	3	..	39202b
22	4623	51.9	-12 5	8.2	9.0	G5	3	..	39477b	72	11131	52.1	-37 27	6.24	6.5	A3	..	1,10	56,139
23	4625	51.9	-12 32	9.39	10.57	K5	1	..	39477b	73	11111	52.1	-45 44	9.1	8.8	B8	4	..	17084b
24	13652	51.9	-30 18	9.4	9.9	A2	2	..	39202b	74	10378	52.1	-52 46	8.9	8.6	Ao	5	..	19895b
25	11387	51.9	-38 55	11.0	10.9	Ao	2	..	38109b	75	8215	52.1	-57 9	6.8	7.1	G5	..	5,4	56,139
26	10940	51.9	-39 25	8.3	9.2	K5	2	..	19655b	76	6879	52.1	-59 44	9.0	9.3	Fo	2	..	39301b
27	7784	51.9	-55 9	9.42	9.1	Ao	4	..	19954b	77	4048	52.1	-63 7	8.8	9.8	Ko	3	..	39370b
28	7925	51.9	-56 28	7.3	7.2	A5	3	..	36326b	78	..	52.2	+15 21	..	..	Ko	1	..	5404m
29	6958	51.9	-58 48	9.9	9.9	Ao	1	..	19954b	79	3149	52.2	+14 46	9.5	10.6	K2	1	..	5404m
30	4046	51.9	-63 16	8.8	9.8	Ko	2	..	39370b	80	3290	52.2	+4 36	9.5	9.9	F5	1	..	19012b
31	4047	51.9	-63 25	9.2	9.3	A2	4	..	39370b	81	12977	52.2	-24 12	11.3	10.9	Ao	2	..	40302b
32	3074	52.0	+40 1	8.57	9.75	K5	1	..	38773i	82	12978	52.2	-24 14	9.4	9.4	F5	4	..	40302b
33	3318	52.0	+6 39	7.54	8.54	Ko	3	..	37767i	83	11731	52.2	-26 12	9.1	8.3	Ao	7	..	40086b
34	3288	52.0	+4 5	9.1	9.9	G5	2	..	19012b	84	13057	52.2	-29 15	8.4	8.1	B3	6	..	40086b
35	4281	52.0	-2 52	8.7	8.8	A2	5	..	39474b	85	13665	52.2	-30 40	7.8	8.7	G5	5	..	39202b
36	4417	52.0	-15 40	9.9	9.9	Ao	2	..	39477b	86	10944	52.2	-39 4	9.5	10.1	Ao	3	..	38109b
37	4474	52.0	-19 39	8.6	9.8	Mb	2	..	40331b	87	11039	52.2	-40 8	8.5	10.9	K2	1	..	22853b
38	4590	52.0	-21 3	9.5	10.1	G5	3	R	40302b	88	11040	52.2	-40 17	9.5	9.2	Ao	2	..	19655b
39	4591	52.0	-21 4	10.3	10.4	G5	3	..	40302b	89	11137	52.2	-41 52	10.3	9.5	Ao	3	..	19655b
40	4463	52.0	-21 15	8.3	10.4	K5	1	..	40302b	90	11291	52.2	-44 1	8.6	10.5	Mb	1	..	19655b
41	13003	52.0	-23 24	9.6	9.2	Fo	4	..	40302b	91	11099	52.2	-49 32	9.3	9.9	K2	2	..	17084b
42	12648	52.0	-28 15	10.5	10.3	Ko	1	..	40441b	92	6959	52.2	-58 9	8.6	9.0	A3	5	..	19954b
43	R	52.0	-29 8	10.3	10.4	A2	1	..	40086b	93	2404	52.3	+47 5	8.7	9.0	Fo	3	..	37609i
44	12211	52.0	-32 13	9.5	9.9	F8	2	..	39202b	94	3071	52.3	+16 22	10.1	11.3	K5	1	..	5404m
45	12209	52.0	-32 47	9.1	8.7	B9	5	..	39202b	95	3070	52.3	+16 7	9.5	9.8	Fo	6	R	37229i
46	11107	52.0	-36 23	9.4	9.8	F8	2	..	38109b	96	3085	52.3	+15 49	9.8	10.4	Go	1	..	5404m
47	11130	52.0	-37 59	10.8	9.5	Ao	3	..	22853b	97	3150	52.3	+13 59	10.5	11.7	K5	1	..	5404m
48	11389	52.0	-38 13	10.3	10.7	Fo	2	..	38109b	98	3101	52.3	+10 31	9.8	10.2	F5	1	..	19012b
49	11390	52.0	-38 47	9.9	11.2	Ko	2	..	38109b	99	4247	52.3	-11 49	9.5	10.1	Go	2	..	39477b
50	11392	52.0	-39 0	7.35	8.0	Ko	5	..	19655b	100	12655	52.3	-28 40	8.8	9.4	G5	4	..	40086b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

153100

16<sup>h</sup> 52<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	13060	52.3	-29 57	8.68	8.7	F <sub>2</sub>	4	..	39202b	51	12660	52.6	-28 18	8.6	8.8	F <sub>8</sub>	5	..	40086b
2	11396	52.3	-38 24	7.46	7.4	B <sub>5</sub>	7	3,7	22853b	52	12663	52.6	-29 0	9.8	9.7	G <sub>5</sub>	2	..	40086b
3	11397	52.3	-38 54	8.8	9.2	F <sub>5</sub>	3	..	22853b	53	13671	52.6	-30 44	9.8	9.3	B <sub>9</sub>	3	..	39202b
4	10948	52.3	-40 0	11.5	11.2	B <sub>8</sub>	2	..	22853b	54	11621	52.6	-33 16	9.5	9.0	A <sub>0</sub>	5	..	39202b
5	11140	52.3	-41 15	8.3	8.1	B <sub>9</sub>	8	..	19655b	55	11399	52.6	-38 8	10.3	9.8	B <sub>5</sub>	2	..	22853b
6	11147	52.3	-46 19	7.6	7.4	B <sub>3</sub>	9	..	17084b	56	10955	52.6	-39 3	9.5	10.1	G <sub>5</sub>	2	..	38109b
7	11182	52.3	-47 7	9.3	9.5	A <sub>0</sub>	3	..	17084b	57	11145	52.6	-41 8	8.1	8.6	F <sub>5</sub>	7	..	19655b
8	3073	52.4	+16 39	10.1	10.7	G	2	..	5404m	58	11118	52.6	-45 32	9.0	9.2	A <sub>3</sub>	4	..	17084b
9	3072	52.4	+16 29	10.5	11.0	F <sub>8</sub>	1	..	5404m	59	11152	52.6	-46 54	10.6	10.3	B	1	..	17084b
10	3264	52.4	+13 7	8.1	9.2	K <sub>2</sub>	6	3,2	5404m	60	10383	52.6	-52 7	8.5	9.4	K <sub>0</sub>	3	..	19895b
11	3113	52.4	+12 35	9.5	10.0	F <sub>8</sub>	3	..	5404m	61	7939	52.6	-56 5	8.5	8.5	F <sub>5</sub>	6	..	19954b
12	3320	52.4	+6 44	9.5	10.0	F <sub>8</sub>	3	..	19012b	62	7938	52.6	-56 19	7.7	9.1	Mb	2	..	19954b
13	3322	52.4	+6 22	6.94	7.94	K <sub>0</sub>	5	..	37767i	63	6882	52.6	-59 36	8.6	8.5	F <sub>5</sub>	5	5,4	19954b
14	3321	52.4	+6 10	9.5	10.5	K <sub>0</sub>	2	..	19012b	64	2869	52.6	-68 42	8.2	8.2	A <sub>0</sub>	6	..	42473b
15	3293	52.4	+5 9	8.7	9.0	F <sub>0</sub>	5	..	19012b	65	812	52.7	+71 27	8.3	9.3	K <sub>0</sub>	1	..	38095i
16	4283	52.4	-2 52	7.32	7.38	A <sub>2</sub>	5	..	37801i	66	1713	52.7	+60 32	7.16	8.16	K <sub>0</sub>	5	..	37802i
17	4506	52.4	-14 41	9.9	10.4	F <sub>8</sub>	2	..	39477b	67	..	52.7	-2 36	var.	var.	Md	..	R	M
18	4671	52.4	-17 43	9.0	10.0	K <sub>0</sub>	2	..	40331b	68	4418	52.7	-10 24	8.2	9.2	K <sub>0</sub>	5	..	39477b
19	11736	52.4	-26 51	9.3	9.8	K <sub>0</sub>	3	..	40086b	69	4627	52.7	-12 29	9.52	10.30	G <sub>5</sub>	2	..	39477b
20	11732	52.4	-26 57	8.8	8.6	F <sub>2</sub>	6	..	40086b	70	4367	52.7	-18 13	9.5	10.5	K <sub>0</sub>	1	..	40331b
21	10951	52.4	-39 4	9.7	10.1	K <sub>0</sub>	2	..	38109b	71	4480	52.7	-19 15	9.2	9.5	G <sub>5</sub>	3	..	40331b
22	10631	52.4	-51 50	9.5	9.5	K <sub>2</sub>	1	..	19895b	72	13012	52.7	-23 50	8.2	8.3	A <sub>5</sub>	7	..	40302b
23	6960	52.4	-58 42	7.3	7.1	B <sub>8</sub>	4	..	36326b	73	11330	52.7	-27 42	10.1	9.7	A <sub>0</sub>	3	..	40086b
24	3052	52.4	-66 47	8.9	8.9	A <sub>0</sub>	4	..	42473b	74	11625	52.7	-33 29	9.1	9.0	B <sub>9</sub>	3	..	39202b
25	2868	52.4	-68 29	8.6	8.6	A <sub>0</sub>	4	..	42473b	75	11148	52.7	-41 20	9.5	9.2	F <sub>5</sub>	4	..	19655b
26	1887	52.5	+55 49	9.6	10.6	K	1	..	37802i	76	11149	52.7	-41 28	8.1	9.5	K <sub>5</sub>	3	..	19655b
27	2869	52.5	+34 34	8.7	9.5	G <sub>5</sub>	2	..	38499i	77	11147	52.7	-41 48	8.8	8.4	B <sub>9</sub>	7	..	19655b
28	3086	52.5	+15 2	9.5	10.5	K <sub>0</sub>	2	..	5404m	78	11302	52.7	-43 50	9.0	9.4	B	2	..	19655b
29	3151	52.5	+14 49	7.69	8.87	K <sub>5</sub>	6	0,3	5404m	79	11356	52.7	-48 57	9.5	9.1	A <sub>0</sub>	4	..	17084b
30	..	52.5	+13 51	..	..	F <sub>8</sub>	2	..	5404m	80	10385	52.7	-52 29	8.5	9.4	K <sub>0</sub>	3	..	19895b
31	3265	52.5	+12 55	9.5	10.3	G <sub>5</sub>	3	..	5404m	81	6884	52.7	-59 17	8.1	8.2	A <sub>0</sub>	6	..	19954b
32	3102	52.5	+10 41	8.1	9.1	K <sub>0</sub>	7	5,2	19012b	82	5824	52.7	-61 59	7.3	7.8	F <sub>2</sub>	8	..	39370b
33	3275	52.5	+7 27	9.3	9.4	A <sub>2</sub>	5	..	19012b	83	2020	52.7	-72 15	9.1	9.1	A <sub>0</sub>	3	..	20270b
34	4249	52.5	-11 56	7.66	8.08	F <sub>5</sub>	7	..	39477b	84	3087	52.8	+15 42	10.5	10.9	F <sub>5</sub>	1	..	5404m
35	4507	52.5	-14 13	7.27	8.34	K <sub>2</sub>	6	..	39477b	85	3153	52.8	+14 54	8.84	9.62	G <sub>5</sub>	5	0,1	5404m
36	11617	52.5	-33 22	8.1	8.1	A <sub>5</sub>	6	..	22853b	86	3267	52.8	+13 33	9.8	10.8	K <sub>0</sub>	2	..	5404m
37	11135	52.5	-37 24	9.5	9.8	K <sub>2</sub>	3	..	38109b	87	3274	52.8	-1 51	10.1	10.2	A <sub>3</sub>	1	..	39474b
38	11398	52.5	-38 48	9.1	9.5	A <sub>0</sub>	3	..	22853b	88	4508	52.8	-14 37	9.2	9.3	A <sub>5</sub>	3	..	39477b
39	10952	52.5	-39 12	9.5	10.1	G <sub>5</sub>	2	..	22853b	89	4673	52.8	-17 54	9.5	9.6	A <sub>3</sub>	3	..	40331b
40	11150	52.5	-46 9	7.5	7.6	B <sub>3</sub>	8	..	17084b	90	13013	52.8	-23 35	8.8	8.9	G <sub>5</sub>	6	..	40302b
41	10380	52.5	-53 0	9.4	9.4	A <sub>0</sub>	3	..	19895b	91	11739	52.8	-26 5	10.1	9.8	K <sub>0</sub>	2	..	40086b
42	2342	52.5	-70 9	8.50	8.6	F <sub>2</sub>	4	..	42473b	92	11742	52.8	-26 55	10.8	9.7	A <sub>2</sub>	3	..	40086b
43	605	52.6	+75 32	7.57	7.91	F <sub>2</sub>	3	..	37240i	93	11332	52.8	-27 4	9.6	10.9	K <sub>0</sub>	1	..	40086b
44	2008	52.6	+52 8	8.2	9.2	K <sub>0</sub>	2	..	37609i	94	12665	52.8	-28 24	8.6	8.9	K <sub>0</sub>	4	..	40086b
45	2932	52.6	+31 11	8.1	8.2	A <sub>2</sub>	7	..	20914i	95	12224	52.8	-32 45	8.8	8.7	B <sub>8</sub>	5	..	39202b
46	3271	52.6	+18 24	7.62	8.62	K <sub>0</sub>	4	..	38775i	96	11626	52.8	-34 0	10.5	10.2	A <sub>2</sub>	1	..	39202b
47	3294	52.6	+5 34	9.5	10.0	F <sub>8</sub>	2	..	19012b	97	11142	52.8	-37 19	10.5	9.8	B <sub>9</sub>	3	..	38109b
48	4365	52.6	-8 40	9.5	9.9	F <sub>5</sub>	3	..	40597b	98	11401	52.8	-38 24	11.0	10.7	B <sub>9</sub>	2	..	22853b
49	4672	52.6	-17 19	9.3	9.4	A <sub>5</sub>	3	..	40331b	99	11304	52.8	-43 4	8.0	7.9	B <sub>5</sub>	6	..	19655b
50	4594	52.6	-20 39	8.8	8.9	F <sub>5</sub>	4	..	40302b	100	7957	52.8	-54 50	9.4	9.4	A <sub>0</sub>	1	..	19954b

## THE HENRY DRAPER CATALOGUE.

153200

16<sup>h</sup> 52<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	7940	52.8	-56 24	6.55	6.4	B9	8	..	36326b	51	3105	53.2	+10 31	9.1	9.7	Go	2	..	19012b
2	6686	52.8	-60 48	8.9	10.8	Ma	1	..	39370b	52	3324	53.2	+ 5 57	9.5	10.3	G5	1	..	19012b
3	3270	52.8	-67 38	8.6	8.6	Ao	4	..	42473b	53	12988	53.2	-24 56	10.5	10.2	Ao	2	..	40302b
4	1312	52.9	+63 16	8.4	8.5	A2	3	..	38536i	54	11842	53.2	-25 26	11.7	10.3	Ao	2	..	40302b
5	1619	52.9	+61 48	8.2	8.8	Go	2	..	38536i	55	11749	53.2	-26 12	8.2	8.0	Ao	8	..	40086b
6	2406	52.9	+47 45	8.4	8.9	F8	3	..	37609i	56	11747	53.2	-27 1	8.2	8.3	A2	8	..	40086b
7	2639	52.9	+28 29	9.1	9.5	F5	2	..	20914i	57	12673	53.2	-28 42	10.3	10.2	G5	1	..	40441b
8	3094	52.9	+24 22	8.7	9.0	Fo	2	..	38775i	58	11123	53.2	-45 18	6.52	7.6	K2	6	..	17084b
9	3268	52.9	+13 12	9.1	10.2	K2	4	..	5404m	59	11160	53.2	-46 34	10.3	10.2	Ao	2	..	17084b
10	3298	52.9	+ 9 32	3.42	4.42	Ko	..	R	56,94	60	10387	53.2	-52 49	8.8	8.9	A5	5	..	19895b
11	3310	52.9	+ 8 27	9.1	9.6	F8	5	..	19012b	61	6964	53.2	-58 48	6.32	5.8	Bop	4	R	43198b
12	3206	52.9	- 0 59	8.9	9.0	A3	3	..	39474b	62	6965	53.2	-58 53	7.8	7.3	B9	2	..	43198b
13	4481	52.9	-19 58	9.28	10.4	K2	1	..	40331b	63	3273	53.2	-67 44	9.1	9.1	Ao	3	..	42473b
14	12985	52.9	-24 14	9.6	8.8	A2	5	..	40302b	64	1238	53.2	-77 28	8.9	9.9	Ko	1	..	19008b
15	11334	52.9	-27 32	11.3	10.9	G5	1	..	40441b	65	1152	53.3	+64 2	8.0	9.1	K2	3	..	38536i
16	13077	52.9	-29 39	9.1	10.2	K2	2	..	40086b	66	3078	53.3	+40 17	8.3	9.3	Ko	3	..	38773i
17	13675	52.9	-31 2	8.4	8.4	Ao	5	..	39202b	67	3013	53.3	+21 10	8.9	9.9	Ko	1	..	38775i
18	11385	52.9	-34 39	9.9	9.6	B9	2	..	39202b	68	3198	53.3	+19 17	8.7	9.8	K2	1	..	38775i
19	11403	52.9	-38 33	9.5	10.1	B9	3	..	22853b	69	3269	53.3	+13 18	10.1	10.7	Go	3	..	5404m
20	10960	52.9	-40 2	10.1	11.4	Ma	..	..	M	70	3081	53.3	+11 4	8.9	10.1	K5	1	..	19012b
21	11360	52.9	-48 29	6.08	7.3	G5	10	..	19895b	71	3299	53.3	+ 9 11	7.9	8.2	Fo	8	..	19012b
22	11105	52.9	-49 6	9.5	8.8	Bo	5	..	17084b	72	3278	53.3	+ 7 17	9.1	9.4	Fo	4	..	19012b
23	1849	53.0	+54 36	9.1	9.7	Go	2	..	37802i	73	3353	53.3	+ 1 55	9.8	9.9	A3	2	..	40290b
24	2905	53.0	+29 45	8.5	9.1	Go	3	..	20914i	74	4036	53.3	- 3 31	10.1	10.5	F5	1	..	39474b
25	3154	53.0	+14 12	7.6	8.7	K2	5	0.1	5404m	75	4510	53.3	-14 52	8.7	9.5	G5	4	..	39477b
26	3155	53.0	+14 3	6.51	7.29	G5	9	5.10	37218i	76	4420	53.3	-15 39	8.0	8.6	Go	7	..	40331b
27	3212	53.0	+ 2 30	9.8	10.4	Go	1	..	40290b	77	4471	53.3	-21 20	9.5	10.9	K5	1	..	40302b
28	4035	53.0	- 3 4	9.3	9.4	A3	2	..	39474b	78	11843	53.3	-25 33	10.3	9.7	G5	4	..	40302b
29	4509	53.0	-14 42	6.47	6.81	F2	8	..	39477b	79	11147	53.3	-37 6	10.1	10.7	K2	1	..	38109b
30	11336	53.0	-27 21	10.3	10.0	Ao	3	..	40086b	80	11056	53.3	-40 3	9.5	10.1	Ao	3	..	22853b
31	13440	53.0	-31 43	9.6	9.4	Ao	3	..	39202b	81	11196	53.3	-47 50	10.1	9.7	Ao	3	..	17084b
32	11144	53.0	-37 17	9.2	9.2	F5	3	..	22853b	82	6967	53.3	-58 14	9.2	9.6	A2	3	..	19954b
33	10964	53.0	-39 51	10.5	10.4	Ao	2	..	22853b	83	6966	53.3	-58 52	8.2	8.2	A	1	..	43198b
34	11339	53.0	-44 50	6.56	7.0	A5	10	..	21842b	84	5825	53.3	-61 24	8.5	9.9	Ko	3	..	39370b
35	10639	53.0	-51 27	9.5	8.6	B9	6	..	19895b	85	2346	53.3	-70 16	8.8	9.1	Fo	2	..	42473b
36	7964	53.0	-54 45	9.2	10.0	Ma	1	..	19954b	86	2407	53.4	+47 32	6.88	6.94	A2p	9	R	37609i
37	1889	53.1	+55 16	9.1	10.1	K	1	..	37802i	87	3166	53.4	+25 31	6.69	7.69	Ko	7	..	37805i
38	3156	53.1	+13 56	10.1	11.2	K2	1	..	5404m	88	3037	53.4	+21 57	8.7	9.3	Go	1	..	38775i
39	3311	53.1	+ 8 31	10.5	11.1	Go	1	..	19012b	89	3358	53.4	+20 8	9.1	9.9	G5	1	..	38775i
40	4206	53.1	- 4 11	8.0	8.5	F8	5	..	39474b	90	3312	53.4	+ 8 20	9.3	10.3	Ko	2	..	19012b
41	4472	53.1	- 9 34	8.6	9.1	F8	6	..	40597b	91	3296	53.4	+ 4 18	8.7	9.3	G	2	..	37767i
42	11743	53.1	-26 59	10.8	9.8	Go	1	..	40086b	92	4366	53.4	- 8 28	8.8	8.8	Ao	6	..	40597b
43	11337	53.1	-27 40	9.0	9.4	Ko	4	..	40086b	93	11345	53.4	-27 18	11.0	10.9	A2	2	..	40441b
44	12671	53.1	-28 18	8.4	8.8	Ko	4	..	40086b	94	13442	53.4	-31 32	8.0	8.1	B8	6	..	39202b
45	13677	53.1	-30 35	10.3	9.9	Ao	2	..	39202b	95	11737	53.4	-42 10	9.9	8.9	Bo	2	..	19655b
46	11145	53.1	-37 24	10.1	9.5	Go	4	..	38109b	96	6969	53.4	-58 9	9.1	9.6	A3	2	..	19954b
47	11192	53.1	-48 1	9.3	9.4	G5	3	..	17084b	97	3274	53.4	-67 31	8.5	9.5	Ko	2	..	42473b
48	10950	53.1	-50 2	9.51	9.1	A3	2	..	19895b	98	1194	53.4	-76 4	6.97	7.7	Ao	8	..	42633b
49	8291	53.1	-53 49	8.2	9.1	Ko	3	..	19895b	99	2345	53.5	+50 13	6.70	8.05	Ma	6	..	37609i
50	3157	53.2	+14 48	9.39	10.39	Ko	3	..	5404m	100	2820	53.5	+32 24	8.1	9.1	Ko	4	..	20914i

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

153300

16<sup>h</sup> 53<sup>m</sup>.5

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3088	53.5	+15 20	7.77	8.77	Ko	6	0,5	5404m	51	11353	53.9	-27 47	11.0	9.7	A	2	..	40086b
2	3158	53.5	+14 50	9.44	10.44	Ko	2	..	5404m	52	11354	53.9	-27 48	9.0	8.5	Fo	4	..	40086b
3	3280	53.5	+7 5	9.8	10.1	Fo	2	..	19012b	53	13685	53.9	-30 19	9.4	9.0	B8	4	..	39202b
4	3325	53.5	+6 41	9.5	10.7	K5	2	..	19012b	54	11130	53.9	-45 3	9.57	9.7	Go	2	..	17084b
5	4386	53.5	-16 44	8.0	8.3	Fo	6	..	40331b	55	11132	53.9	-45 17	10.1	9.7	Ao	3	..	17084b
6	4370	53.5	-18 36	9.2	9.2	Ao	4	..	40331b	56	11167	53.9	-46 32	11.0	10.2	A2	1	..	17084b
7	12680	53.5	-28 49	10.5	10.0	A5	2	..	40441b	57	10645	53.9	-51 21	10.1	9.4	B9	1	..	19895b
8	11062	53.5	-40 9	10.1	10.4	Ao	2	..	22853b	58	8305	53.9	-53 49	8.7	7.9	B8	7	..	19895b
9	5826	53.5	-61 38	10.0	10.0	Ao	2	..	39370b	59	7970	53.9	-54 46	9.1	8.8	B9	3	..	19854b
10	4050	53.5	-63 27	9.2	10.4	K5	1	..	39370b	60	3316	54.0	+8 54	9.8	10.1	F2	2	..	19012b
11	2873	53.5	-68 31	9.4	9.4	Ao	3	..	42473b	61	4372	54.0	-18 5	6.54	7.10	Go	9	..	16852b
12	3095	53.6	+24 33	6.36	7.36	Ko	7	..	38775i	62	4476	54.0	-21 59	9.5	10.1	G5	3	..	40302b
13	3075	53.6	+16 32	9.8	10.6	G5	2	..	5404m	63	13002	54.0	-24 50	5.78	6.1	Fo	..	2,10-	56,139
14	3354	53.6	+1 50	9.0	10.0	Ko	2	2,2	37767i	64	13687	54.0	-30 5	8.73	8.4	Fo	5	..	39202b
15	4631	53.6	-13 2	8.34	8.84	F8	5	..	39477b	65	13686	54.0	-30 41	10.1	10.2	F8	1	..	39202b
16	4421	53.6	-15 54	7.98	9.16	K5	5	..	40331b	66	12249	54.0	-32 57	9.1	8.7	F8	5	..	39202b
17	13090	53.6	-29 11	10.5	10.5	Ko	1	..	40441b	67	11237	54.0	-35 36	8.8	8.9	B8	3	..	22853b
18	13446	53.6	-31 20	9.1	9.9	Go	1	..	39202b	68	11236	54.0	-35 46	6.04	6.8	Ko	9	..	22853b
19	13445	53.6	-31 23	9.8	9.3	F5	1	..	39202b	69	11238	54.0	-35 57	8.8	9.8	F8	3	..	39202b
20	13444	53.6	-31 25	8.8	9.1	Go	3	..	39202b	70	10955	54.0	-50 58	6.57	6.8	A3	..	2,10	56,139
21	12238	53.6	-32 2	9.1	9.3	Ao	3	..	39202b	71	8306	54.0	-54 0	8.0	8.2	Ko	7	..	19895b
22	7802	53.6	-55 18	9.0	10.0	Ko	1	..	19954b	72	517	54.1	+79 40	6.88	7.88	Ko	5	..	37240i
23	3362	53.7	+20 50	9.4	10.4	Ko	1	..	38775i	73	3174	54.1	+25 30	8.8	9.1	Fo	3	..	37805i
24	3299	53.7	+4 3	8.7	9.7	Ko	2	..	37767i	74	3363	54.1	+20 18	7.70	8.70	Ko	3	..	38775i
25	4285	53.7	-2 50	8.8	8.9	A3	4	..	39474b	75	3201	54.1	+19 22	8.9	10.0	K2	1	..	38775i
26	4512	53.7	-14 34	8.9	9.2	Fo	4	..	39477b	76	3089	54.1	+15 38	6.96	7.52	Go	7	0,9	38775i
27	12990	53.7	-25 1	9.60	9.7	Ao	3	..	40302b	77	3278	54.1	-1 32	7.46	7.80	F2	7	..	39474b
28	11349	53.7	-27 29	9.4	10.6	Ko	1	..	40086b	78	4383	54.1	-7 48	8.2	8.8	Go	5	..	14191b
29	12682	53.7	-28 56	10.8	10.3	F2	1	..	40441b	79	11856	54.1	-25 11	9.6	9.4	A2	4	..	40302b
30	11152	53.7	-37 47	7.67	8.3	Go	6	5,4	22853b	80	11134	54.1	-36 54	10.1	10.1	Ko	2	..	38109b
31	3275	53.7	-68 0	9.1	9.7	Go	2	..	42473b	81	10988	54.1	-39 26	10.5	10.4	B8	2	..	22853b
32	3301	53.8	+4 6	8.5	9.1	Go	3	..	37767i	82	11171	54.1	-41 55	7.5	6.9	B8	8	..	19655b
33	3276	53.8	-1 51	9.8	10.3	F8	2	..	39474b	83	11320	54.1	-43 29	8.5	9.7	G5	2	..	19655b
34	4531	53.8	-6 24	10.3	11.1	G5	1	..	40597b	84	11136	54.1	-45 7	8.86	8.6	Ao	6	..	17084b
35	12998	53.8	-24 3	9.3	8.9	A2	4	..	40302b	85	10958	54.1	-50 42	9.7	8.8	B9	4	..	19895b
36	12997	53.8	-24 56	5.92	7.9	Ma	..	0,4-	56,139	86	7952	54.1	-56 31	7.2	7.2	F8	3	..	36326b
37	11351	53.8	-27 29	10.5	10.9	K2	1	..	40441b	87	6972	54.1	-58 45	9.2	9.0	B9	4	..	19954b
38	11153	53.8	-37 31	10.3	9.5	B5	3	..	38109b	88	5480	54.1	-62 25	8.2	9.4	K5	1	..	13775b
39	11348	53.8	-44 52	8.42	9.4	Ko	3	..	17084b	89	2875	54.1	-68 8	6.9	8.3	Mb	5	..	42473b
40	11166	53.8	-46 28	11.0	9.8	A2	2	..	17084b	90	3160	54.2	+14 30	9.5	10.7	K5	1	..	5404m
41	3276	53.8	-67 40	9.4	9.4	Ao	2	..	42473b	91	3159	54.2	+14 26	9.8	10.4	Go	2	..	5404m
42	497	53.9	+82 1	8.6	8.9	Fo	1	..	37240i	92	4390	54.2	-5 40	8.9	9.3	F5	3	..	40597b
43	748	53.9	+73 29	8.8	8.8	A	1	..	38095i	93	12697	54.2	-28 29	7.9	7.5	Ao	9	..	40086b
44	1520	53.9	+62 16	7.04	7.82	G5	5	..	38536i	94	11424	54.2	-38 39	9.9	10.1	B8	2	..	22853b
45	2009	53.9	+52 52	7.08	7.08	Ao	6	1,7	37802i	95	5827	54.2	-61 51	8.5	9.1	A3	2	..	13775b
46	3281	53.9	+7 44	9.3	9.9	Go	3	..	19012b	96	4052	54.2	-63 10	9.5	9.5	Ao	2	..	39370b
47	3277	53.9	-1 37	9.5	9.9	F5	2	..	39474b	97	1313	54.3	+63 42	8.8	9.6	G5	1	..	38536i
48	4209	53.9	-4 27	9.3	10.3	Ko	1	..	39474b	98	2457	54.3	+48 19	8.7	9.0	Fo	4	..	37609i
49	4475	53.9	-21 24	9.9	10.1	Go	2	..	40302b	99	2668	54.3	+43 50	7.56	8.34	G5	4	0,6	38773i
50	11767	53.9	-26 48	11.0	10.2	Ko	1	..	40441b	100	..	54.3	+15 13	..	..	G	1	..	5404m

## THE HENRY DRAPER CATALOGUE.

153400

16<sup>h</sup> 54<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3317	54.3	+ 8 18	9.1	9.6	F8	3	..	19012b	51	2874	54.6	+34 52	8.23	8.79	Go	2	..	38499i
2	3327	54.3	+ 6 46	9.5	10.5	Ko	3	..	19012b	52	2911	54.6	+30 44	8.7	9.5	G5	2	..	20914i
3	3316	54.3	+ 3 4	8.6	9.6	Ko	2	0,3	37767i	53	3097	54.6	+23 58	8.6	9.2	Go	1	..	38775i
4	4424	54.3	-15 58	9.5	10.6	K2	1	..	40331b	54	3136	54.6	+17 51	7.56	7.56	Ao	6	..	38775i
5	4374	54.3	-18 30	10.1	10.2	A2	2	..	40331b	55	3135	54.6	+17 40	7.9	8.4	F8	2	..	38775i
6	4375	54.3	-18 32	9.5	9.5	Ao	4	..	40331b	56	3078	54.6	+16 21	9.5	9.6	A5	5	5,5	37229i
7	11775	54.3	-26 53	9.8	9.1	Ao	4	..	40086b	57	3283	54.6	+ 7 26	10.5	11.1	Go	1	..	19012b
8	11361	54.3	-27 23	11.5	10.3	A2	1	..	40086b	58	4386	54.6	- 7 22	8.0	8.6	Go	5	..	14191b
9	11139	54.3	-45 36	9.9	10.2	Ao	2	..	17084b	59	4261	54.6	-22 59	10.1	9.8	Fo	3	..	40302b
10	11202	54.3	-47 12	9.2	9.1	Ao	6	..	17084b	60	13039	54.6	-23 21	8.4	8.4	A5	7	..	40302b
11	11122	54.3	-50 2	9.21	9.2	Ko	2	..	19895b	61	11403	54.6	-34 20	10.8	10.1	Ao	1	..	39202b
12	5481	54.3	-62 17	9.5	9.9	F5	2	..	39370b	62	11434	54.6	-38 10	8.1	7.4	Ao	7	0,7	22853b
13	3061	54.4	+39 52	8.87	9.65	G5	2	..	38773i	63	11356	54.6	-44 22	9.2	8.8	F8	7	..	17084b
14	2642	54.4	+28 23	8.6	8.7	A3	2	..	20914i	64	11355	54.6	-44 48	9.1	8.8	Ao	7	..	17084b
15	3083	54.4	+11 41	8.0	9.4	Ma	3	..	19012b	65	10962	54.6	-51 2	9.7	9.1	B9	2	..	19895b
16	3318	54.4	+ 8 0	9.3	10.4	K2	3	..	19012b	66	7980	54.6	-54 24	7.5	7.1	A2	6	0,10	36326b
17	4389	54.4	-16 29	8.6	9.7	K2	3	R	40331b	67	6976	54.6	-58 35	9.1	9.3	Fo	2	..	19954b
18	4677	54.4	-18 3	8.8	9.1	F2	6	..	40331b	68	5829	54.6	-61 48	8.2	9.9	K2	2	..	39370b
19	4376	54.4	-19 1	8.6	9.8	K5	2	..	40331b	69	3389	54.6	-65 30	8.3	8.3	Ao	4	..	13775b
20	13035	54.4	-23 26	9.8	9.6	F5	3	..	40302b	70	2410	54.7	+47 16	8.7	9.3	G	4	..	37609i
21	11365	54.4	-27 38	8.0	8.6	F5	5	..	40086b	71	2244	54.7	+46 54	9.3	9.3	Ao	3	..	37609i
22	13101	54.4	-29 6	8.6	8.7	Ao	7	..	40086b	72	2774	54.7	+42 39	6.38	7.45	K2	7	..	38773i
23	13694	54.4	-30 21	9.3	9.0	F8	3	..	39202b	73	3161	54.7	+14 14	7.36	7.64	Fo	7	..	37218i
24	12259	54.4	-32 52	8.8	9.9	Ko	2	..	39202b	74	3162	54.7	+13 59	10.1	11.3	K5	1	..	5404m
25	11645	54.4	-33 40	10.1	10.8	K2	1	..	39202b	75	3303	54.7	+ 9 52	8.02	8.30	Fo	5	..	19012b
26	11431	54.4	-38 3	7.58	6.5	B2	6	..	22853b	76	3304	54.7	+ 9 50	8.42	8.84	F5	5	..	19012b
27	10993	54.4	-39 41	9.1	10.1	Ao	4	..	22853b	77	3329	54.7	+ 5 57	8.1	9.1	Ko	2	..	37767i
28	11749	54.4	-42 2	10.3	10.1	Ao	1	..	19655b	78	3218	54.7	+ 2 33	9.5	10.1	Go	1	..	40290b
29	11140	54.4	-45 6	9.64	9.7	Ao	2	..	17084b	79	4212	54.7	- 4 11	8.2	8.7	F8	5	..	39474b
30	11141	54.4	-45 54	10.6	10.3	Ao	1	..	17084b	80	4600	54.7	-20 26	8.8	8.6	Ao	5	..	40302b
31	10649	54.4	-51 32	8.0	9.1	Ko	3	..	19895b	81	11867	54.7	-25 38	11.3	10.3	G5	1	..	40302b
32	7975	54.4	-54 55	var.	var.	Nb	..	R	56,216	82	11370	54.7	-27 5	9.6	11.1	K5	1	..	40441b
33	5828	54.4	-61 35	8.8	9.9	Ko	2	..	39370b	83	12706	54.7	-28 14	8.8	8.6	Go	7	..	40086b
34	..	54.4	-62 48	..	..	Ma	1	..	39370b	84	13106	54.7	-29 31	7.44	8.7	Mb	5	0,7	39202b
35	1239	54.4	-77 23	8.7	9.7	Ko	3	..	19008b	85	13459	54.7	-31 18	9.6	9.4	A3	2	..	39202b
36	2805	54.5	+33 51	8.2	8.7	F8	2	..	38499i	86	11146	54.7	-36 41	9.4	9.2	B5	4	..	22853b
37	4040	54.5	- 4 4	7.68	8.75	K2	5	..	39474b	87	11167	54.7	-37 51	10.3	8.9	B5	3	2,3	22853b
38	4478	54.5	-21 18	7.39	8.3	Ko	6	..	40302b	88	11437	54.7	-38 18	9.9	10.4	Ko	2	..	38109b
39	11366	54.5	-27 16	9.6	9.4	Go	3	..	40086b	89	11436	54.7	-38 58	9.2	9.8	Ao	4	..	22853b
40	13699	54.5	-30 30	9.6	9.4	A2	2	..	39202b	90	11146	54.7	-45 5	9.42	9.7	Go	3	..	17084b
41	13455	54.5	-31 37	8.8	9.0	Go	3	..	39202b	91	8249	54.7	-57 26	9.5	9.5	Ao	1	..	19954b
42	12261	54.5	-32 38	9.5	9.4	F8	3	..	39202b	92	2349	54.7	-70 15	9.4	9.4	Ao	1	..	42473b
43	11646	54.5	-33 44	8.8	11.0	K5	1	..	39202b	93	338	54.7	-86 47	8.2	8.5	F2	7	0,8	13458b
44	11139	54.5	-36 33	9.7	9.8	Ko	2	..	38109b	94	1156	54.8	+65 4	8.70	9.04	F2	2	..	38536i
45	11174	54.5	-47 2	9.9	9.7	F5	3	..	17084b	95	1716	54.8	+57 21	9.1	9.7	Go	2	..	37802i
46	11205	54.5	-47 42	9.9	10.0	Go	3	..	17084b	96	2012	54.8	+52 2	7.9	8.9	Ko	4	..	37609i
47	6975	54.5	-58 24	7.3	8.1	F5	8	..	19954b	97	2728	54.8	+27 49	8.5	9.7	K5	1	..	20914i
48	530	54.6	+80 17	7.93	8.71	G5	2	..	37240i	98	3079	54.8	+16 45	9.5	9.5	Ao	4	..	5404m
49	1890	54.6	+55 40	8.7	9.7	K	1	..	37802i	99	3163	54.8	+14 29	8.06	9.06	Ko	7	0,2	5404m
50	2243	54.6	+46 53	8.8	8.9	A5	2	..	38566i	100	3321	54.8	+ 8 22	9.5	9.6	A5	2	..	19012b

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

153500

16<sup>h</sup> 54<sup>m</sup>.8

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3322	54.8	+ 8 10	8.1	9.2	K2	4	..	19012b	51	11179	55.1	-46 21	8.4	8.5	Ao	7	..	17084b
2	3219	54.8	+ 2 30	9.5	10.0	F8	2	..	40290b	52	11178	55.1	-46 26	8.7	9.4	Go	6	..	17084b
3	12708	54.8	-28 24	7.8	8.6	Ko	7	..	40086b	53	11209	55.1	-47 21	10.3	10.6	Ko	1	..	17084b
4	11168	54.8	-37 58	7.50	8.0	Ko	6	0.4	22853b	54	7823	55.1	-55 5	9.65	9.4	B9	1	..	19954b
5	11438	54.8	-38 21	10.3	10.4	Ao	2	..	38109b	55	5483	55.1	-62 24	8.7	9.3	Go	3	..	39370b
6	11358	54.8	-44 57	9.72	10.0	F8	2	..	17084b	56	2881	55.1	-68 56	9.4	10.0	Go	1	..	42473b
7	11379	54.8	-48 46	8.6	8.8	Ao	4	..	19895b	57	2415	55.2	+47 30	8.2	9.2	Ko	4	..	37609i
8	10964	54.8	-50 52	9.0	9.7	K5	1	..	19895b	58	2414	55.2	+47 15	8.6	9.2	G	2	..	37609i
9	7963	54.8	-56 45	9.2	8.8	F2	3	..	19954b	59	2942	55.2	+31 38	8.1	8.5	F5	6	..	20914i
10	3056	54.8	-66 32	8.9	8.9	Ao	3	..	42473b	60	3278	55.2	+18 42	7.9	9.1	K5	2	..	38775i
11	3279	54.9	- 2 4	9.67	10.74	K2	1	..	39474b	61	3277	55.2	+13 28	10.5	10.9	F5	3	..	5404m
12	11787	54.9	-26 30	11.0	10.0	Ao	2	..	40086b	62	3114	55.2	+ 9 57	7.37	7.37	Ao	5	..	37218i
13	11373	54.9	-27 18	10.3	10.0	Go	1	..	40086b	63	3358	55.2	+ 1 16	9.1	9.6	F8	3	..	40290b
14	12709	54.9	-28 28	10.3	8.8	A2	4	..	40086b	64	4042	55.2	- 4 3	9.2	9.6	F5	2	..	39474b
15	13111	54.9	-29 31	7.6	8.7	G5	6	..	40086b	65	11872	55.2	-25 29	11.0	10.0	Ao	2	..	40302b
16	13109	54.9	-29 58	Cl.	Cl.	Con.	4	R	39202b	66	11874	55.2	-25 35	9.6	10.3	K5	1	..	40302b
17	12265	54.9	-32 44	9.5	9.9	A2	2	..	39202b	67	11792	55.2	-26 30	8.8	8.6	Go	6	..	40086b
18	11441	54.9	-38 54	9.7	10.4	A3	2	..	38109b	68	11794	55.2	-26 37	11.3	9.8	A5	2	..	40086b
19	11188	54.9	-41 3	8.5	8.3	B5	7	..	19655b	69	11795	55.2	-26 39	10.5	9.4	F5	4	..	40086b
20	11757	54.9	-42 23	9.7	9.8	B9	2	..	19655b	70	11791	55.2	-26 56	10.5	10.6	F5	1	..	40441b
21	11148	54.9	-46 1	9.1	10.2	Ko	1	..	17084b	71	11378	55.2	-27 5	7.6	8.0	A2	8	..	40086b
22	6690	54.9	-60 5	8.4	8.7	Ao	4	..	13775b	72	13709	55.2	-30 36	9.3	8.4	Ao	4	..	39202b
23	..	54.9	-63 45	..	..	K5	1	..	39370b	73	12269	55.2	-32 17	7.7	9.1	G5	5	..	39202b
24	2569	55.0	+49 19	8.7	9.1	F5	2	..	37609i	74	11657	55.2	-33 13	7.25	7.4	A2	8	..	22853b
25	2411	55.0	+47 30	8.2	9.2	Ko	5	..	37609i	75	11175	55.2	-37 9	7.80	8.0	B8	7	..	22853b
26	2412	55.0	+46 59	8.6	9.4	G5	3	..	37609i	76	11019	55.2	-39 48	8.8	10.9	Ko	2	..	22853b
27	3062	55.0	+39 52	8.12	8.68	Go	5	..	38773i	77	11083	55.2	-40 49	9.5	9.2	F5	3	..	19655b
28	3175	55.0	+25 6	8.8	9.1	Fo	1	..	37805i	78	11761	55.2	-42 28	8.7	9.2	K2	1	..	19655b
29	3276	55.0	+13 11	10.1	10.2	A5	3	..	5404m	79	11131	55.2	-50 0	7.01	7.2	Ao	10	R	19895b
30	3275	55.0	+13 6	9.3	9.9	Gp	3	R	37229i	80	8316	55.2	-53 5	5.36	6.2	F8	..	0, R	28, 212
31	3357	55.0	+ 1 5	9.04	10.04	Ko	2	..	40290b	81	8318	55.2	-53 20	9.5	9.5	Ao	2	..	19895b
32	11789	55.0	-26 35	10.3	9.1	Fo	3	..	40086b	82	914	55.2	-79 57	9.03	9.4	G5	4	..	43458b
33	11376	55.0	-27 59	10.3	9.4	F8	2	..	40086b	83	3080	55.3	+16 36	10.1	10.4	Fo	4	R	37229i
34	13469	55.0	-31 20	10.8	9.9	Ao	1	..	39202b	84	3279	55.3	+13 46	9.3	9.8	F8	5	..	5404m
35	11177	55.0	-46 38	9.1	8.9	F2	6	..	17084b	85	3278	55.3	+13 32	9.3	9.7	F5	6	..	5404m
36	2571	55.1	+49 45	8.7	9.3	Go	2	..	37609i	86	3301	55.3	+ 5 49	9.3	9.4	A2	4	..	19012b
37	3369	55.1	+20 16	8.9	9.7	G5	1	..	38775i	87	3305	55.3	+ 4 34	10.1	10.9	G5	1	..	19012b
38	3164	55.1	+14 42	10.1	10.9	G5	3	..	5404m	88	3611	55.3	+ 0 31	8.9	9.9	Ko	3	..	40290b
39	3165	55.1	+14 42	9.8	10.6	G5	4	..	5404m	89	3208	55.3	- 0 37	9.1	9.4	F2	3	..	40290b
40	3085	55.1	+11 5	7.33	8.51	K5	3	..	37218i	90	4427	55.3	-16 3	9.5	10.7	K5	1	..	40331b
41	4387	55.1	- 7 13	9.0	10.1	K2	1	..	40597b	91	4263	55.3	-22 12	10.3	10.9	K2	1	..	40302b
42	4423	55.1	-10 55	8.6	8.6	Ao	5	..	39477b	92	11876	55.3	-25 8	8.10	8.6	F5	6	..	40302b
43	4425	55.1	-15 32	9.0	9.5	F8	3	..	40331b	93	11381	55.3	-27 7	10.1	10.2	K5	1	..	40086b
44	12267	55.1	-32 29	8.1	7.9	Fo	7	..	39202b	94	11659	55.3	-33 45	8.5	8.4	Fo	5	..	22853b
45	11451	55.1	-38 44	10.1	10.7	A2	2	..	38109b	95	11455	55.3	-38 44	9.1	10.9	Ko	2	..	38109b
46	11015	55.1	-39 19	9.2	10.4	Ko	3	..	22853b	96	906	55.4	+70 37	6.95	7.01	A2	9	..	38095i
47	11191	55.1	-42 2	10.1	9.8	Ao	2	..	19655b	97	1157	55.4	+65 17	4.82	5.24	F5	..	0, 9 R	56, 94
48	11365	55.1	-44 18	9.3	10.0	Mb	2	..	17084b	98	1521	55.4	+62 31	6.79	6.79	Ao	8	..	38536i
49	11364	55.1	-44 46	8.9	9.1	Ko	5	..	17084b	99	3370	55.4	+19 59	9.00	10.00	Ko	1	..	38775i
50	11153	55.1	-45 8	10.3	10.3	A2	1	..	17084b	100	3205	55.4	+19 34	9.1	9.9	G5	1	..	38775i

## THE HENRY DRAPER CATALOGUE.

153600

16<sup>h</sup> 55<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3280	55.4	+17 57	7.30	7.58	Fo	6	..	38775i	51	3101	55.6	+24 22	7.8	8.8	Ko	2	..	38775i
2	..	55.4	+15 37	..	..	Go	1	..	5404m	52	3280	55.6	+13 34	10.5	10.5	Ao	3	..	5404m
3	3115	55.4	+9 59	8.77	9.77	Ko	4	..	19012b	53	3332	55.6	+6 44	6.38	6.52	A5	8	..	37767i
4	3324	55.4	+8 24	9.5	10.1	Go	1	..	19012b	54	4609	55.6	-20 47	9.9	10.1	A5	1	..	40302b
5	3209	55.4	-0 37	8.9	9.0	A3	5	..	4029ob	55	4483	55.6	-21 40	Neb.	Neb.	Pd	..	R	76,22
6	3281	55.4	-1 44	8.9	9.9	Ko	3	..	39474b	56	11882	55.6	-25 16	10.8	10.3	F8	1	..	40302b
7	4537	55.4	-6 25	8.6	9.1	F8	3	..	14191b	57	11883	55.6	-26 0	11.3	10.0	Ao	1	..	40302b
8	4685	55.4	-17 11	7.74	7.72	B9	5	..	16852b	58	11181	55.6	-37 54	10.5	9.6	A3	3	..	38109b
9	4606	55.4	-20 17	7.18	7.6	Ao	8	..	40302b	59	11372	55.6	-44 13	10.6	10.5	Ao	2	..	17084b
10	4264	55.4	-22 40	8.8	10.1	Ko	3	..	40302b	60	11184	55.6	-46 2	7.7	8.8	Ko	7	..	17084b
11	11383	55.4	-27 12	10.3	9.7	Ao	3	..	40086b	61	11215	55.6	-47 13	10.1	9.7	F5	3	..	17084b
12	13711	55.4	-30 38	7.46	7.8	A2	7	..	39202b	62	10971	55.6	-50 15	7.61	8.0	F2	8	..	19895b
13	13473	55.4	-32 0	5.06	5.01	B8	..	..	56,139	63	10659	55.6	-51 3	8.3	7.9	A3	8	..	19895b
14	11661	55.4	-33 29	10.5	10.4	A5	1	..	39202b	64	7974	55.6	-56 21	9.1	9.1	B9	2	..	19954b
15	11179	55.4	-37 48	11.2	9.8	Ao	2	..	38109b	65	6692	55.6	-60 43	8.6	10.4	K5	3	..	39370b
16	11197	55.4	-41 11	9.1	9.2	F8	3	..	19655b	66	2014	55.7	+51 57	8.9	9.7	G5	2	..	37609i
17	11340	55.4	-43 47	8.7	9.7	Go	2	..	19655b	67	2352	55.7	+50 50	7.93	8.71	G5	4	..	37609i
18	7992	55.4	-54 12	8.8	8.2	B8	8	..	19895b	68	2462	55.7	+48 8	8.2	8.7	F8	7	..	37609i
19	4053	55.4	-63 41	9.5	10.5	Ko	1	..	39370b	69	3207	55.7	+19 45	8.0	8.8	G5	3	..	38775i
20	2025	55.4	-72 26	8.4	8.8	F5	6	..	20270b	70	3082	55.7	+16 3	10.1	10.9	G5	2	..	5404m
21	615	55.4	-83 34	8.6	9.4	G5	2	..	43458b	71	11886	55.7	-25 45	10.3	10.3	Ko	1	..	40302b
22	749	55.5	+73 5	8.4	9.5	K2	1	..	38095i	72	11391	55.7	-27 47	7.23	7.6	A3	4	1,9	43292b
23	899	55.5	+68 7	8.2	9.2	Ko	1	E	38095i	73	13716	55.7	-30 30	8.6	9.1	Ko	3	..	39202b
24	2246	55.5	+46 6	8.8	9.6	G5	2	..	38566i	74	11041	55.7	-39 13	10.8	10.9	Ao	1	..	38109b
25	2636	55.5	+44 9	8.4	9.2	G5	3	0,4	38773i	75	11038	55.7	-39 24	10.5	10.9	A2	2	..	38109b
26	3081	55.5	+16 8	10.5	11.3	G5	2	..	5404m	76	11037	55.7	-39 48	9.1	10.1	A2	3	..	22853b
27	3086	55.5	+10 59	7.5	8.0	F8	5	..	37218i	77	11088	55.7	-40 45	8.1	7.8	B3	7	..	19655b
28	3308	55.5	+8 57	9.1	10.2	K2	2	..	19012b	78	11389	55.7	-48 11	7.3	7.9	Ko	8	..	19895b
29	3325	55.5	+8 10	8.1	9.1	Ko	1	..	19012b	79	6981	55.7	-58 52	8.5	9.6	K5	2	..	19954b
30	3307	55.5	+4 19	8.9	9.4	F8	2	..	19012b	80	977	55.8	+67 38	6.72	6.72	Ao	7	0,7	38536i
31	4528	55.5	-13 24	6.93	7.49	Go	7	..	39477b	81	1772	55.8	+59 40	8.3	8.7	F5	3	..	37802i
32	4379	55.5	-18 47	8.8	10.0	K5	2	..	40331b	82	3166	55.8	+14 42	10.5	11.6	K2	1	..	5404m
33	13022	55.5	-24 47	9.3	10.3	G5	3	..	40302b	83	3122	45.8	+12 40	9.5	9.8	Fo	3	..	5404m
34	13021	55.5	-24 58	9.60	10.0	F5	3	..	40302b	84	3285	55.8	+7 25	9.1	9.7	Go	3	..	19012b
35	11880	55.5	-25 33	11.7	10.9	A2	1	..	40302b	85	..	55.8	+2 10	..	..	F5	1	..	4029ob
36	11800	55.5	-26 48	8.6	8.0	Ao	8	..	40086b	86	3223	55.8	+2 5	9.3	10.3	Ko	4	0,2	4029ob
37	13712	55.5	-30 9	9.48	9.9	Go	2	..	40086b	87	4215	55.8	-4 4	5.00	6.00	Ko	..	2,9	56,94
38	11180	55.5	-37 46	10.8	9.3	Ao	4	..	38109b	88	4538	55.8	-6 53	7.49	8.56	K2	4	..	14191b
39	11371	55.5	-44 42	6.82	7.9	Ko	8	..	17084b	89	13050	55.8	-23 43	9.6	10.2	Ko	1	..	40302b
40	11182	55.5	-46 22	10.1	10.6	K5	1	..	17084b	90	13717	55.8	-30 6	9.93	9.9	Ao	2	..	40086b
41	11183	55.5	-46 36	8.3	8.6	Fo	7	..	17084b	91	11667	55.8	-33 22	8.1	9.6	Ko	4	..	39202b
42	10409	55.5	-52 10	9.1	9.1	B8	4	..	19895b	92	11260	55.8	-35 53	10.3	9.8	Ao	2	..	22853b
43	7972	55.5	-56 58	8.8	9.5	Ko	2	..	19954b	93	11205	55.8	-41 14	9.5	8.9	Ao	4	..	19655b
44	8260	55.5	-57 25	8.4	9.4	Ko	2	..	19954b	94	11373	55.8	-44 18	9.5	8.8	A2	7	..	17084b
45	4054	55.5	-63 54	9.2	9.8	Go	3	..	39370b	95	11161	55.8	-45 15	8.7	8.5	B8	6	..	17084b
46	2682	55.5	-69 30	8.4	9.4	Ko	1	..	42473b	96	6896	55.8	-59 44	9.0	9.3	Go	2	..	39301b
47	538	55.5	-84 24	8.9	9.7	G5	3	..	43458b	97	1159	55.9	+65 11	6.44	6.72	Fo	7	..	38536i
48	1623	55.6	+61 38	7.32	8.32	Ko	3	..	38536i	98	2733	55.9	+27 29	7.26	8.61	Mb	4	0,3	37805i
49	2894	55.6	+35 1	8.33	8.39	A2	3	..	38499i	99	3139	55.9	+17 0	8.5	9.5	Ko	1	..	38775i
50	2915	55.6	+29 42	7.76	7.76	Ao	6	2,7	37805i	100	3091	55.9	+15 55	10.5	11.5	Ko	1	..	5404m

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

153700

16<sup>h</sup> 55<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3090	55.9	+15 19	7.84	8.62	G5	4	5,8	37218i	51	498	56.2	+82 12	4.40	5.18	G5	..	5, R	1372c
2	3090	55.9	+11 17	8.5	9.5	Ko	3	..	19012b	52	690	56.2	+74 27	7.62	7.90	Fo	3	..	38095i
3	3328	55.9	+ 8 15	9.8	10.3	F8	3	..	19012b	53	2932	56.2	+26 24	8.3	9.7	Ma	1	..	37805i
4	3309	55.9	+ 4 11	8.9	9.5	Go	3	..	37767i	54	3167	56.2	+14 9	9.1	10.2	K2	3	..	5404m
5	4610	55.9	-20 44	9.5	10.2	Go	1	..	40302b	55	3363	56.2	+ 1 39	9.3	9.6	Fo	4	..	40290b
6	4488	55.9	-21 14	10.1	10.4	K5	1	..	40302b	56	3211	56.2	- 0 38	8.9	9.9	Ko	3	..	39474b
7	13027	55.9	-24 54	8.52	8.5	B8	7	..	40302b	57	3283	56.2	- 1 24	9.5	9.6	A2	2	..	39474b
8	11809	55.9	-26 11	10.3	9.7	B9	2	..	40302b	58	3282	56.2	- 1 45	9.3	10.4	K2	1	..	39474b
9	12728	55.9	-28 10	10.8	9.8	B9	3	..	40086b	59	4539	56.2	- 6 35	7.25	7.23	B9	10	..	14191b
10	12726	55.9	-28 40	10.8	10.2	G5	2	..	40441b	60	4531	56.2	-13 13	8.7	9.0	Fo	3	..	39477b
11	13131	55.9	-29 52	10.3	9.9	Ao	2	..	40086b	61	4382	56.2	-19 3	9.5	9.8	F5	2	..	40331b
12	13720	55.9	-30 53	9.4	9.1	Ao	3	..	39202b	62	11399	56.2	-27 43	11.0	9.7	B9	2	..	40086b
13	11775	55.9	-42 58	9.7	10.1	Ko	1	..	19655b	63	12734	56.2	-28 50	9.0	8.8	Fo	5	..	40086b
14	11350	55.9	-43 40	9.7	9.8	B8	3	..	19655b	64	12280	56.2	-32 31	10.1	9.9	B8	2	..	39202b
15	11162	55.9	-45 30	10.3	10.2	A3	2	..	17084b	65	12279	56.2	-32 42	11.0	10.2	Ao	1	..	39202b
16	8265	55.9	-57 34	5.88	6.1	B3	..	2,9	56,139	66	11168	56.2	-36 42	8.1	7.3	B5	7	..	22853b
17	3058	55.9	-66 34	8.8	10.0	K5	1	..	42473b	67	11188	56.2	-37 34	7.44	7.4	Ao	6	..	22853b
18	1242	55.9	-77 7	9.4	9.7	F2	3	..	19008b	68	11465	56.2	-38 50	10.3	10.9	A2	3	..	38109b
19	1241	55.9	-77 44	9.6	10.6	Ko	1	..	19008b	69	11382	56.2	-44 5	9.9	9.7	Ao	3	..	17084b
20	608	56.0	+75 34	6.84	7.12	Fo	5	..	37240i	70	11190	56.2	-46 27	9.7	9.7	F8	3	..	17084b
21	1625	56.0	+61 45	9.1	9.9	G5	1	..	38536i	71	10977	56.2	-50 56	8.9	10.6	B8	5	..	19895b
22	2871	56.0	+38 30	8.7	9.7	Ko	1	..	38773i	72	10978	56.2	-50 56	8.6	7.9	B8	6	..	19895b
23	3283	56.0	+18 4	7.6	8.8	K5	2	..	38775i	73	6984	56.2	-58 36	9.6	9.6	Ao	2	..	19954b
24	3361	56.0	+ 1 25	9.5	9.8	Fo	3	..	40290b	74	6985	56.2	-58 48	8.1	7.7	B8	9	..	19954b
25	3362	56.0	+ 1 1	9.54	10.61	K2	1	..	40290b	75	5485	56.2	-62 30	8.7	8.7	Ao	3	..	13775b
26	4478	56.0	- 9 36	8.9	9.0	A3	4	..	40597b	76	2778	56.3	+42 31	9.0	10.1	K2	1	..	38773i
27	4381	56.0	-18 44	6.37	7.37	Ko	5	5,8 R	8391b	77	2872	56.3	+38 0	8.1	8.5	F5	3	..	38773i
28	11813	56.0	-26 46	11.0	9.7	A2	2	..	40086b	78	2826	56.3	+37 4	8.1	8.2	A2	5	..	38773i
29	11394	56.0	-27 23	9.3	9.4	Go	2	..	40086b	79	3377	56.3	+20 34	8.7	9.5	G5	1	..	38775i
30	12731	56.0	-28 24	11.9	10.2	Ao	1	..	40441b	80	3124	56.3	+12 46	8.7	9.5	G5	7	5,1	5404m
31	12276	56.0	-32 6	7.33	7.3	A2	8	..	39202b	81	3333	56.3	+ 6 36	8.7	9.0	F2	4	..	19012b
32	11668	56.0	-33 6	10.1	10.2	F5	2	..	39202b	82	3228	56.3	+ 2 54	9.1	9.2	A3	2	..	37767i
33	11776	56.0	-42 50	9.9	9.8	Ao	2	..	19655b	83	3364	56.3	+ 1 25	9.3	9.4	A3	4	..	40290b
34	11377	56.0	-44 6	9.7	9.8	G5	2	..	17084b	84	4479	56.3	- 9 37	9.2	10.4	K5	1	..	40597b
35	11217	56.0	-47 23	10.1	9.4	B8	4	..	17084b	85	11820	56.3	-27 0	11.0	10.9	F8	1	..	40441b
36	10415	56.0	-52 8	9.1	8.9	B5	4	..	19895b	86	13137	56.3	-29 10	8.6	8.7	Ao	6	..	40086b
37	3140	56.1	+17 5	8.5	9.6	K2	1	..	38775i	87	11672	56.3	-33 40	10.1	9.9	F8	2	..	39202b
38	3309	56.1	+ 9 5	9.8	10.8	Ko	1	..	19012b	88	11189	56.3	-37 15	9.1	9.6	G5	3	..	38109b
39	3226	56.1	+ 2 41	7.7	8.0	F2	5	..	37767i	89	11469	56.3	-38 22	8.9	8.7	Go	4	..	22853b
40	4217	56.1	- 4 4	9.2	9.3	A5	4	..	39474b	90	11166	56.3	-45 22	9.7	9.7	F5	3	..	17084b
41	4612	56.1	-20 26	7.62	8.6	Ko	5	..	40302b	91	11191	56.3	-47 1	6.28	7.1	A2	8	..	4940b
42	4489	56.1	-21 9	10.3	10.1	A3	1	..	40302b	92	4055	56.3	-63 45	10.4	10.4	Ao	1	..	39370b
43	13052	56.1	-23 8	8.1	9.3	G5	6	..	40302b	93	1599	56.3	-74 55	7.43	8.8	Ko	4	..	42633b
44	13031	56.1	-24 21	8.4	8.9	Ko	6	..	40302b	94	1347	56.3	-75 40	8.4	9.4	Ko	3	..	42633b
45	13726	56.1	-30 29	10.5	9.9	Ao	2	..	40086b	95	3168	56.4	+14 16	10.1	11.5	Ma	1	..	5404m
46	11186	56.1	-37 20	10.3	9.6	A3	3	..	38109b	96	3091	56.4	+11 29	7.64	7.92	Fo	6	..	37218i
47	11462	56.1	-38 19	7.36	7.4	B9	8	..	22853b	97	3312	56.4	+ 9 39	9.1	9.2	A2	2	..	19012b
48	11379	56.1	-44 18	9.7	9.8	Ko	2	..	17084b	98	3287	56.4	+ 7 35	6.82	7.82	Ko	5	..	37767i
49	11189	56.1	-46 18	9.0	9.4	G5	5	..	17084b	99	11823	56.4	-26 7	Cl.	Cl.	Con.	4	R	40086b
50	7841	56.1	-55 26	8.2	7.6	A5	3	..	36326b	100	12738	56.4	-28 15	9.6	8.8	B9	5	..	40086b



## THE HENRY DRAPER CATALOGUE.

153800

16<sup>h</sup> 56<sup>m</sup>.4

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	12739	56.4	-28 20	10.5	10.2	Ao	1	..	40086b	51	4280	56.8	-11 45	8.7	9.7	Ko	3	..	40585b
2	13729	56.4	-30 16	9.6	9.4	A2	3	..	40086b	52	4646	56.8	-12 24	8.6	9.1	F8	4	..	39477b
3	13730	56.4	-30 55	8.2	7.9	B9	6	..	39202b	53	R	56.8	-28 3	10.2	10.2	Ao	1	..	40086b
4	11268	56.4	-35 39	9.4	9.2	B2	3	..	22853b	54	12749	56.8	-28 18	10.8	10.2	Ao	2	..	40086b
5	11055	56.4	-39 56	7.36	7.7	A5	8	..	19655b	55	13502	56.8	-31 28	6.88	7.3	B2	..	3,8	56,139
6	339	56.4	-86 40	9.5	10.5	Ko	3	2,1	22578b	56	11425	56.8	-34 39	10.3	9.5	B8	3	..	39202b
7	2881	56.5	+34 29	7.05	7.83	G5	5	..	38499i	57	11423	56.8	-34 53	10.8	10.4	K2	1	..	39202b
8	2947	56.5	+31 4	3.92	3.92	Ao	..	R	6196c	58	..	56.8	-36 47	var.	var.	Md	..	R	M
9	3083	56.5	+16 45	7.24	7.24	Ao	7	..	38775i	59	7983	56.8	-56 56	8.4	8.0	Ao	8	..	19954b
10	3313	56.5	+ 9 12	9.0	10.1	K2	3	..	19012b	60	8272	56.8	-57 56	8.3	8.8	Ma	3	..	19954b
11	4048	56.5	- 3 37	8.4	9.4	Ko	3	..	39474b	61	1600	56.8	-74 39	8.7	9.3	Go	4	5,3	21336b
12	4374	56.5	- 8 48	8.7	8.7	Ao	3	..	14191b	62	2778	56.9	+41 35	8.7	9.7	Ko	1	..	38773i
13	11404	56.5	-27 10	11.0	10.2	Ao	2	..	40086b	63	3172	56.9	+14 11	10.5	11.3	G5	1	..	5404m
14	11406	56.5	-27 59	11.0	10.3	Ao	2	..	40441b	64	3171	56.9	+13 58	10.1	10.7	Go	2	..	5404m
15	11058	56.5	-39 37	9.2	9.8	B5	4	..	22853b	65	3125	56.9	+12 43	8.7	9.7	Ko	6	R	5404m
16	11397	56.5	-48 14	10.3	9.9	A2	2	..	17084b	66	3314	56.9	+ 9 47	8.92	10.10	K5	1	..	19012b
17	8331	56.5	-53 3	9.7	9.7	Ao	2	..	19895b	67	3335	56.9	+ 7 59	8.9	9.7	G5	3	..	19012b
18	2016	56.6	+52 27	8.6	9.8	K5	1	..	37802i	68	3290	56.9	+ 7 39	9.8	10.2	F5	2	..	19012b
19	2934	56.6	+26 37	8.1	9.3	K5	2	..	37805i	69	3336	56.9	+ 6 46	9.1	10.5	Ma	3	..	19012b
20	3104	56.6	+24 34	8.1	8.1	Ao	4	..	38775i	70	4425	56.9	-10 48	8.0	9.0	Ko	5	..	39477b
21	3332	56.6	+ 7 59	8.9	9.0	A5	5	..	19012b	71	4615	56.9	-20 17	9.3	10.1	Ma	..	..	M
22	3288	56.6	+ 7 13	9.1	9.9	G5	1	..	19012b	72	13058	56.9	-23 10	11.0	10.1	F5	2	..	40302b
23	3310	56.6	+ 4 17	8.7	9.0	F2	2	..	19012b	73	11830	56.9	-26 57	7.48	8.3	Ko	7	..	40086b
24	3366	56.6	+ 1 48	9.8	10.4	Go	2	..	40290b	74	11410	56.9	-27 9	10.3	9.7	G5	2	..	40086b
25	4614	56.6	-21 4	9.5	9.8	A2	1	..	40302b	75	13736	56.9	-30 30	9.1	8.7	B9	4	..	40086b
26	13141	56.6	-29 28	10.3	11.0	Ko	1	..	40441b	76	11181	56.9	-37 1	8.42	8.6	B3	6	..	22853b
27	11221	56.6	-47 18	9.2	8.6	B5	6	..	17084b	77	11483	56.9	-38 34	10.1	10.4	B5	3	..	22853b
28	11145	56.6	-49 10	9.9	9.4	B8	3	..	17084b	78	11788	56.9	-42 49	9.2	11.2	Ma	..	..	M
29	8332	56.6	-53 27	8.6	8.6	Fo	5	..	19895b	79	10676	56.9	-51 15	8.6	8.8	B3p	4	R	19895b
30	2686	56.6	-69 7	8.5	8.8	Fo	3	..	42473b	80	1348	56.9	-75 14	7.38	8.2	F2	6	..	42633b
31	2354	56.6	-70 51	9.6	9.6	Ao	1	..	20270b	81	2251	57.0	+46 10	9.1	9.5	F5	2	..	37609i
32	3069	56.7	+39 17	7.22	8.22	Ko	6	..	38773i	82	3095	57.0	+15 5	6.16	6.16	Aop	8	0,8R	37218i
33	3178	56.7	+25 49	8.6	9.1	F8	2	..	37805i	83	3285	57.0	- 1 43	9.8	10.4	Go	2	..	39474b
34	3045	56.7	+22 47	5.74	6.74	Ko	8	..	38775i	84	4616	57.0	-21 1	10.8	10.1	Ao	1	..	40302b
35	3092	56.7	+11 19	7.9	7.9	Ao	7	..	37218i	85	13059	57.0	-23 8	10.8	10.2	A3	1	..	40302b
36	3333	56.7	+ 8 19	9.3	10.4	K2	1	..	19012b	86	11832	57.0	-26 48	8.6	8.8	F8	6	..	40086b
37	3335	56.7	+ 6 22	9.5	10.6	K2	1	..	19012b	87	11411	57.0	-27 31	10.8	10.0	Ao	2	..	40086b
38	12744	56.7	-28 32	10.5	10.2	Ao	2	..	40441b	88	12293	57.0	-32 28	8.8	9.0	Go	3	..	39202b
39	12285	56.7	-32 43	8.1	8.1	B8	6	..	39202b	89	11430	57.0	-34 26	8.9	10.1	K5	1	..	39202b
40	11366	56.7	-44 0	8.0	7.9	B8	8	..	17084b	90	11201	57.0	-38 0	5.98	6.5	Fo	..	2,10	56,139
41	7982	56.7	-56 7	9.0	8.5	Ao	5	..	19954b	91	11372	57.0	-43 25	9.2	10.0	K2	1	..	19655b
42	6988	56.7	-58 32	10.4	10.4	Ao	2	2,1	39301b	92	11176	57.0	-45 6	7.36	8.5	Ko	7	..	17084b
43	6694	56.7	-60 47	8.2	8.7	A3	4	..	13775b	93	11226	57.0	-47 44	11.0	10.5	Ao	1	..	17084b
44	1124	56.7	-78 20	8.7	8.8	A5	5	..	43458b	94	7851	57.0	-56 0	8.5	9.4	Ko	2	..	19954b
45	639	56.8	+77 0	7.19	7.47	Fo	5	..	37240i	95	5488	57.0	-62 10	8.3	9.3	Ko	3	..	39370b
46	3086	56.8	+40 30	8.1	8.5	F5	3	..	38773i	96	3071	57.1	+39 3	7.20	8.20	Ko	7	..	38773i
47	3022	56.8	+21 39	7.02	7.30	Fo	7	..	38775i	97	2738	57.1	+27 21	6.37	6.79	F5	8	0,9	37805i
48	3094	56.8	+14 58	9.3	10.3	Ko	1	..	5404m	98	3096	57.1	+15 13	8.7	9.7	Ko	6	..	5404m
49	3306	56.8	+ 5 3	8.76	9.32	Go	3	..	37767i	99	3230	57.1	+ 2 22	8.9	10.1	K5	2	..	40290b
50	4291	56.8	- 2 9	9.2	9.6	F5	2	..	39474b	100	4221	57.1	- 4 28	8.9	9.9	Ko	2	0,1	39399b



## ANNALS OF HARVARD COLLEGE OBSERVATORY.

153900

16<sup>h</sup> 57<sup>m</sup>.1

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	4481	57.1	- 9 8	9.2	10.0	G5	2	..	40597b	51	11182	57.4	-45 22	9.1	9.8	Ko	2	..	17084b
2	11904	57.1	-25 4	9.8	10.3	G5	2	..	40302b	52	11184	57.4	-45 36	10.3	10.2	A3	2	..	17084b
3	11833	57.1	-26 17	10.1	9.7	A3	2	..	40086b	53	10683	57.4	-51 24	9.9	9.4	A5	2	..	19895b
4	13153	57.1	-29 59	9.13	9.1	B9	4	..	40086b	54	4057	57.4	-63 51	8.9	9.5	Go	4	..	39370b
5	11064	57.1	-39 11	9.5	10.1	Ao	3	..	22853b	55	1349	57.4	-75 27	8.4	9.4	Ko	3	..	42633b
6	11391	57.1	-44 45	9.9	9.4	A2	3	..	17084b	56	1934	57.5	+56 50	6.11	7.11	Ko	9	..	37802i
7	11194	57.1	-46 40	10.3	10.2	A3	2	..	17084b	57	2467	57.5	+48 51	8.2	8.8	Go	2	..	37609i
8	11155	57.1	-49 55	7.91	7.6	B8	8	..	19895b	58	3231	57.5	+ 2 21	10.1	10.2	A5	2	..	40290b
9	10420	57.1	-52 14	9.2	9.1	Ao	4	..	19895b	59	4398	57.5	-16 25	8.9	9.5	Go	2	..	16852b
10	10423	57.1	-52 20	9.2	9.5	F2	3	..	19895b	60	4390	57.5	-18 38	10.1	10.1	Ao	1	..	40331b
11	2679	57.2	+43 55	9.0	10.0	Ko	2	..	38773i	61	4498	57.5	-20 0	8.28	9.3	Ma	2	..	40331b
12	3097	57.2	+15 37	10.1	11.2	K2	2	..	5404m	62	11416	57.5	-27 57	10.8	10.3	A2	2	..	40441b
13	3173	57.2	+14 51	9.8	10.3	F8	3	..	5404m	63	13160	57.5	-29 24	9.3	10.8	K2	1	..	40086b
14	3337	57.2	+ 8 36	6.24	6.24	Ao	9	..	37767i	64	11188	57.5	-36 30	8.8	8.9	F5	3	..	22853b
15	3291	57.2	+ 7 49	8.5	9.0	F8	5	..	19012b	65	10992	57.5	-50 34	11.6	9.4	A5	2	..	19895b
16	13043	57.2	-24 51	8.1	9.4	K5	3	..	40302b	66	10428	57.5	-52 40	9.3	9.4	A3	3	..	19895b
17	11906	57.2	-25 18	10.1	10.0	Ao	3	..	40302b	67	8344	57.5	-53 37	8.9	8.5	B8	5	..	19895b
18	11208	57.2	-37 25	9.16	8.9	Ao	4	..	22853b	68	6900	57.5	-60 0	9.2	9.3	A5	3	..	39301b
19	11206	57.2	-37 42	6.73	6.7	Od	..	R	56,139	69	2419	57.6	+47 1	8.44	8.50	A2	4	..	37609i
20	11490	57.2	-38 56	7.7	10.7	Ma	3	..	22853b	70	2480	57.6	+45 56	7.54	8.04	F8	7	..	37609i
21	11179	57.2	-45 34	10.1	10.0	B9	2	..	17084b	71	3072	57.6	+39 42	8.1	8.9	G5	3	..	38773i
22	11157	57.2	-49 10	11.0	9.4	Ao	2	..	17084b	72	3098	57.6	+15 25	9.5	10.3	G5	3	..	5404m
23	10424	57.2	-52 34	9.1	8.8	B8	5	..	19895b	73	3284	57.6	+13 18	8.9	9.9	Ko	5	..	5404m
24	8008	57.2	-54 27	9.0	9.1	A5	1	..	39301b	74	4542	57.6	- 6 12	7.36	7.44	A3	9	..	14191b
25	7857	57.2	-55 8	9.32	9.4	B9	3	..	19954b	75	4379	57.6	- 8 7	9.0	9.8	G5	2	..	40597b
26	7985	57.2	-56 56	8.5	8.8	G5	4	..	19954b	76	4500	57.6	-19 56	8.88	8.9	A3	4	..	40331b
27	6899	57.2	-59 19	9.7	9.7	Ao	2	..	39301b	77	13055	57.6	-24 41	9.8	8.9	B3	4	..	40302b
28	6897	57.2	-59 54	9.6	9.6	Ao	2	..	39301b	78	12758	57.6	-28 18	10.5	10.0	Ao	2	..	40086b
29	2901	57.3	+35 37	8.8	9.3	F8	1	..	38499i	79	13162	57.6	-29 56	8.68	8.1	B8	5	..	40086b
30	3292	57.3	+ 7 21	8.5	8.6	A3	3	..	37767i	80	11200	57.6	-46 50	7.3	7.4	B9	10	..	17084b
31	3325	57.3	+ 3 21	9.1	9.2	A5	2	..	37767i	81	10684	57.6	-51 44	9.9	9.4	Fo	2	..	19895b
32	4269	57.3	-23 0	7.68	9.2	K5	6	..	40302b	82	7859	57.6	-55 46	8.2	9.7	K2	1	..	19954b
33	13743	57.3	-30 38	10.1	9.6	F8	3	..	40441b	83	6901	57.6	-59 10	9.0	10.2	K5	2	..	39301b
34	11278	57.3	-35 8	8.33	9.2	Ko	3	..	22853b	84	5835	57.6	-61 53	9.2	10.4	A3	2	..	39370b
35	11491	57.3	-38 24	8.2	10.1	Ko	2	..	22853b	85	3394	57.6	-65 36	7.1	7.4	F2	9	..	13775b
36	8280	57.3	-57 49	8.8	8.5	A3	4	..	19954b	86	3060	57.6	-66 39	8.3	9.3	Ko	3	..	42473b
37	6695	57.3	-60 17	7.19	8.7	K2	4	..	13775b	87	3284	57.6	-67 3	7.0	7.0	Ao	7	..	42525b
38	5834	57.3	-61 8	8.7	9.3	A2	4	..	39370b	88	1163	57.7	+64 27	9.0	9.8	G5	2	..	38536i
39	370	57.4	+84 38	9.3	10.4	K2	3	..	37820i	89	2574	57.7	+49 37	8.47	9.47	Ko	3	..	37609i
40	4435	57.4	-15 43	9.3	9.3	Ao	2	..	16852b	90	2813	57.7	+36 17	8.1	9.2	K2	2	..	38499i
41	4499	57.4	-19 20	8.2	8.9	Ko	4	..	16852b	91	2951	57.7	+31 23	8.8	9.2	F5	1	..	20914i
42	13050	57.4	-24 6	7.26	8.5	K2	7	..	40302b	92	3105	57.7	+24 31	8.7	9.7	Ko	1	..	38775i
43	11414	57.4	-27 28	9.3	9.8	Ko	1	..	40086b	93	3215	57.7	+19 12	7.9	7.9	Ao	4	..	38775i
44	13157	57.4	-29 33	8.8	10.5	K2	1	..	40086b	94	3131	57.7	+12 33	9.1	9.7	Go	3	..	5404m
45	11694	57.4	-33 7	10.8	10.2	F8	2	..	39202b	95	3329	57.7	+ 3 31	9.0	9.4	F5	3	3,4	37767i
46	11187	57.4	-36 29	9.9	9.2	B9	3	..	22853b	96	4391	57.7	-18 47	9.2	10.2	Ko	2	..	40331b
47	11215	57.4	-37 37	8.66	8.6	B8	5	..	22853b	97	4502	57.7	-19 19	9.3	8.9	Ao	3	..	40331b
48	11216	57.4	-37 54	9.5	9.2	A2	4	..	38109b	98	4493	57.7	-21 15	9.5	9.2	A2	2	..	40302b
49	11495	57.4	-38 46	9.1	10.9	Ko	2	..	22853b	99	4270	57.7	-22 32	9.3	9.5	Go	4	..	40302b
50	11380	57.4	-43 9	7.52	7.4	Go	7	..	19655b	100	13069	57.7	-23 28	9.0	8.9	F2	5	..	40302b

## THE HENRY DRAPER CATALOGUE.

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16<sup>h</sup> 57<sup>m</sup>.7

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	13058	57.7	-24 42	9.6	10.6	Mb	1	..	40302b	51	3132	58.0	+11 59	8.4	9.5	K2	2	..	18982b
2	12760	57.7	-28 6	8.0	7.9	B9	7	..	40086b	52	3317	58.0	+ 4 54	9.11	10.46	Ma	1	..	19012b
3	12759	57.7	-28 42	10.3	10.0	A0	2	..	40086b	53	11844	58.0	-26 47	8.6	8.6	A5	8	..	40086b
4	13751	57.7	-30 38	9.6	10.2	K2	1	..	40441b	54	11423	58.0	-27 52	9.6	9.1	A2	3	..	40086b
5	11504	57.7	-38 14	11.5	10.7	A2	3	..	38109b	55	13169	58.0	-29 34	10.8	10.2	A2	2	..	40441b
6	11503	57.7	-38 50	11.0	10.9	A0	3	..	22853b	56	11242	58.0	-37 18	9.4	8.9	A0	5	..	22853b
7	11231	57.7	-47 6	8.6	8.3	Go	7	..	17084b	57	11090	58.0	-39 54	8.38	8.7	A5	4	..	19655b
8	11413	57.7	-48 18	8.9	8.6	B5	5	..	17084b	58	6993	58.0	-58 30	9.7	10.8	K2	1	..	39301b
9	1910	57.8	+53 12	7.70	8.70	K0	4	..	37802i	59	6699	58.0	-60 31	9.2	9.3	A0	3	0,3	39301b
10	3106	57.8	+23 58	8.7	8.8	A2	2	..	38775i	60	5491	58.0	-62 22	9.2	9.7	F8	1	..	39370b
11	3142	57.8	+17 3	9.0	9.1	A3	1	..	38775i	61	5490	58.0	-62 28	9.5	9.6	A2	3	..	39370b
12	3099	57.8	+15 54	9.1	9.7	Go	5	..	5404m	62	1602	58.0	-74 16	8.5	9.3	G5	4	5,2	21336b
13	3285	57.8	+13 46	8.7	9.8	K2	5	0,1	5404m	63	1688	58.1	+58 44	8.2	9.0	G5	3	..	37802i
14	3286	57.8	+13 13	9.8	10.6	G5	3	..	5404m	64	3288	58.1	+13 5	8.3	9.1	G5	7	5,3	5404m
15	3126	57.8	+ 9 58	6.94	7.00	A2	7	..	37218i	65	3133	58.1	+12 50	10.1	10.9	G5	1	..	5404m
16	3339	57.8	+ 6 36	8.5	9.5	K0	3	..	19012b	66	4651	58.1	-12 43	8.3	8.3	A0	6	..	39477b
17	4380	57.8	- 8 52	8.8	9.6	G5	1	..	40597b	67	4528	58.1	-14 9	8.6	9.2	Go	4	..	40585b
18	4494	57.8	-21 16	9.3	9.6	K0	2	..	40302b	68	4623	58.1	-20 20	8.4	8.2	A2	7	..	40331b
19	4496	57.8	-21 22	9.5	10.1	K0	1	..	40302b	69	11284	58.1	-35 10	8.63	8.9	F5	4	..	22853b
20	13062	57.8	-24 9	9.1	8.9	K0	5	..	40302b	70	11521	58.1	-38 28	8.8	8.7	B9	5	..	22853b
21	11915	57.8	-25 33	6.69	7.1	B9	6	..	43292b	71	11128	58.1	-40 33	9.7	10.1	A0	3	0,1	38109b
22	13753	57.8	-30 31	9.6	10.2	G5	2	..	40441b	72	11127	58.1	-40 44	Neb.	Neb.	Pd	..	R	76,22
23	11506	57.8	-38 12	9.5	10.7	K0	3	..	38109b	73	11418	58.1	-44 15	8.6	8.2	A0	7	..	17084b
24	11505	57.8	-38 21	9.5	10.7	G5	2	..	38109b	74	11414	58.1	-44 50	9.1	9.5	K2	2	..	17084b
25	11188	57.8	-45 21	6.40	7.1	A2	7	..	4940b	75	11235	58.1	-47 46	10.6	10.3	A0	2	..	17084b
26	10996	57.8	-50 44	9.7	9.4	G5	1	..	19895b	76	10433	58.1	-52 51	9.0	9.5	F8	2	..	19895b
27	6991	57.8	-58 4	8.7	9.7	K2	3	..	19954b	77	8021	58.1	-54 12	9.1	9.1	A0	2	..	39301b
28	6990	57.8	-58 53	9.0	10.4	G5	2	..	39301b	78	..	58.1	-64 10	..	..	K5	1	..	39370b
29	2817	57.9	+33 43	5.27	5.33	A2	..	R	56,94	79	2113	58.1	-71 32	8.2	8.6	F5	5	..	20270b
30	..	57.9	+14 23	..	..	K0	2	..	5404m	80	906	58.2	+68 51	8.6	8.6	A0	2	..	38095i
31	3127	57.9	+10 41	8.1	9.2	K2	3	..	18982b	81	1689	58.2	+58 36	6.72	6.80	A3	9	..	37802i
32	3622	57.9	+ 0 24	8.7	9.8	K2	2	..	39408b	82	2253	58.2	+46 24	8.0	9.2	K5	2	..	37609i
33	4482	57.9	- 9 8	8.8	8.9	A5	3	..	40597b	83	2834	58.2	+32 40	8.0	8.5	F8	2	..	38499i
34	4527	57.9	-14 28	9.2	9.5	F0	2	..	40585b	84	3183	58.2	+25 40	5.95	6.95	K0	9	..	37805i
35	4438	57.9	-15 43	7.96	8.02	A2	6	..	16852b	85	3217	58.2	+19 33	7.15	7.21	A2	8	..	38775i
36	4619	57.9	-20 15	8.8	8.9	G5	3	..	40331b	86	3101	58.2	+15 32	9.5	10.0	F8	5	..	5404m
37	4272	57.9	-22 44	9.0	10.7	K5	1	..	40302b	87	3100	58.2	+15 26	9.8	11.0	K5	2	..	5404m
38	11422	57.9	-27 4	7.8	8.3	F8	8	..	40086b	88	12769	58.2	-28 26	6.67	7.8	G5	4	5,8	43292b
39	12305	57.9	-32 10	8.8	8.4	F2	4	..	39202b	89	12768	58.2	-28 51	10.3	10.2	A0	3	..	40086b
40	11086	57.9	-39 11	9.5	10.7	B2	3	..	22853b	90	11706	58.2	-33 59	4.87	5.7	Bip	..	R	28,212
41	11410	57.9	-44 55	10.6	9.7	A2	2	..	17084b	91	11243	58.2	-41 6	8.8	8.6	F8	5	..	19655b
42	11189	57.9	-46 0	9.5	9.4	B5	3	..	17084b	92	11419	58.2	-44 58	8.76	10.0	K5	2	..	17084b
43	11203	57.9	-46 55	7.0	7.6	B2	10	..	17084b	93	11194	58.2	-46 1	9.9	9.8	F5	2	..	17084b
44	11232	57.9	-47 33	9.7	9.4	Go	3	..	17084b	94	10689	58.2	-51 54	9.9	8.6	B9	4	..	19895b
45	10997	57.9	-50 48	9.7	9.1	F8	2	..	19895b	95	10434	58.2	-52 23	8.3	8.3	A0	8	..	19895b
46	6992	57.9	-58 55	9.1	10.5	G5	1	..	39301b	96	8292	58.2	-57 43	9.0	9.4	K0	2	..	19954b
47	1793	57.9	-73 27	8.9	9.0	A3	3	..	20270b	97	4059	58.2	-63 34	8.5	8.6	A3	3	..	13775b
48	2904	58.0	+35 42	8.5	9.7	K5	1	..	38499i	98	493	58.3	+83 21	9.3	10.3	K0	3	..	37820i
49	3182	58.0	+25 10	7.91	8.98	K2	2	..	37805i	99	751	58.3	+73 17	6.24	6.38	A5	7	..	38095i
50	3088	58.0	+16 6	9.3	9.9	Go	4	..	5404m	100	3382	58.3	+20 52	7.08	8.43	Ma	3	..	38775i

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16<sup>h</sup> 58<sup>m</sup>.3

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3178	58.3	+14 50	8.49	9.67	K5	7	0,1	5404m	51	11450	58.6	-34 26	10.8	9.8	Ao	2	..	40431b
2	3316	58.3	+9 32	8.9	9.9	Ko	1	..	18982b	52	11526	58.6	-38 44	9.9	10.7	B9	2	..	22853b
3	4624	58.3	-20 54	8.8	8.6	Ao	5	..	40331b	53	11396	58.6	-43 58	6.38	7.2	A3	6	..	4940b
4	13070	58.3	-24 6	7.42	8.2	Ko	7	..	40302b	54	11424	58.6	-48 17	8.6	8.5	Bo	5	..	17084b
5	13762	58.3	-30 4	9.33	9.3	A3	3	..	40086b	55	8360	58.6	-53 56	9.0	9.7	Ma	..	..	M
6	13763	58.3	-31 2	9.4	9.1	Ao	3	..	39202b	56	5836	58.6	-61 49	9.7	9.7	Ao	3	..	39370b
7	13531	58.3	-31 13	7.34	8.4	Go	6	..	39202b	57	5493	58.6	-62 39	9.7	10.5	G5	1	..	39370b
8	11286	58.3	-35 49	9.4	9.2	F5	3	..	22853b	58	3287	58.6	-67 34	8.3	9.3	Ko	3	..	42525b
9	11131	58.3	-40 58	7.5	8.1	F5	6	..	19655b	59	817	58.7	+71 36	8.0	8.8	G5	2	..	38095i
10	11417	58.3	-48 53	9.0	8.5	B9	6	..	17084b	60	3180	58.7	+14 41	6.52	7.52	Ko	5	..	38455i
11	10438	58.3	-52 20	8.3	7.9	B8	8	..	19895b	61	3289	58.7	+13 21	10.5	10.9	F5	1	..	5404m
12	4060	58.3	-63 42	7.7	7.7	Ao	7	..	13775b	62	3293	58.7	+7 5	9.5	10.6	K2	1	..	18982b
13	150	58.3	-88 45	9.2	10.2	Ko	4	..	22980b	63	4440	58.7	-15 7	9.9	10.7	G5	1	..	40585b
14	2575	58.4	+49 5	8.2	8.7	F8	3	..	37609i	64	4502	58.7	-21 38	9.58	10.2	Go	2	..	40627b
15	2783	58.4	+42 52	7.30	8.08	G5	6	..	38773i	65	11859	58.7	-26 26	9.4	9.1	B9	4	..	17036b
16	4439	58.4	-16 3	8.61	9.39	G5	3	..	16852b	66	11433	58.7	-27 14	8.8	9.4	Go	4	..	17036b
17	13078	58.4	-23 15	7.34	8.2	Ko	8	..	40302b	67	13175	58.7	-29 34	8.6	9.3	Ko	3	..	40086b
18	11850	58.4	-26 7	8.6	9.4	K2	3	..	17036b	68	12318	58.7	-32 4	9.1	9.3	Ao	3	..	39202b
19	11197	58.4	-45 57	10.6	10.3	A2	2	..	17084b	69	12317	58.7	-32 29	9.5	9.9	F5	2	..	39202b
20	7865	58.4	-55 32	8.5	8.0	B8	7	..	19954b	70	11238	58.7	-47 17	10.3	9.5	A2	3	..	17084b
21	5492	58.4	-62 12	9.6	9.6	B9	3	..	39370b	71	10444	58.7	-52 26	9.1	9.4	Ko	2	..	19895b
22	1797	58.4	-73 32	8.2	9.6	Mb	2	..	20270b	72	10443	58.7	-52 57	9.5	9.5	Ao	2	..	19895b
23	783	58.4	-81 18	9.1	10.1	Ko	2	..	43458b	73	7868	58.7	-55 54	8.6	7.7	Ao	4	..	36326b
24	782	58.4	-81 25	..	10.9	Ro	1	..	43458b	74	8300	58.7	-57 17	9.7	9.7	Ao	2	..	39301b
25	2469	58.5	+48 47	9.3	10.1	G5	2	..	37609i	75	6903	58.7	-59 32	6.9	8.4	K2	4	..	13775b
26	2835	58.5	+32 2	6.60	7.60	Ko	7	..	20914i	76	3395	58.7	-65 49	8.8	10.0	K5	2	..	39370b
27	2924	58.5	+29 26	7.51	7.51	A2	6	3,4	37805i	77	3061	58.7	-66 56	8.5	9.5	Ko	3	..	42525b
28	3341	58.5	+6 14	9.0	10.2	K5	3	..	19012b	78	2356	58.7	-70 12	8.3	8.7	F5	4	0,4	42525b
29	4531	58.5	-14 47	8.9	9.0	A2	4	..	40585b	79	784	58.7	-81 3	9.2	9.2	Ao	5	..	43458b
30	4697	58.5	-17 9	8.8	9.6	G5	2	..	16852b	80	371	58.8	+84 50	8.23	9.41	K5	4	..	37820i
31	4397	58.5	-18 31	9.5	9.6	A2	2	..	40331b	81	695	58.8	+74 26	7.17	7.59	F5	4	0,4	38095i
32	11924	58.5	-25 30	6.76	6.9	A5	..	5,5	56,139	82	881	58.8	+69 7	8.8	9.6	G5	1	..	38095i
33	11852	58.5	-26 56	11.0	10.2	F5	2	..	17036b	83	3187	58.8	+25 48	8.7	9.3	G	1	..	37805i
34	12773	58.5	-28 46	9.6	10.3	Ko	1	..	40086b	84	3031	58.8	+21 43	7.40	8.40	Ko	4	..	38775i
35	13533	58.5	-31 14	8.4	9.0	G5	3	..	39202b	85	3150	58.8	+17 47	8.4	9.4	Ko	2	..	38775i
36	11250	58.5	-38 0	9.5	8.9	F8	4	..	22853b	86	4294	58.8	-2 26	8.0	9.2	K5	3	..	39474b
37	11813	58.5	-42 8	9.3	9.8	A3	1	..	19655b	87	4536	58.8	-13 55	9.0	9.0	Ao	4	..	40585b
38	11811	58.5	-42 16	9.0	8.6	Ao	3	..	19655b	88	4411	58.8	-16 23	9.9	9.9	Ao	1	..	16852b
39	10439	58.5	-52 5	8.9	9.4	K2	2	..	19895b	89	4410	58.8	-16 37	9.3	9.9	Go	1	..	16852b
40	2892	58.5	-68 42	6.77	6.6	Ao	8	..	42525b	90	4401	58.8	-18 20	9.2	10.4	K5	1	..	40331b
41	1896	58.6	+55 41	8.9	9.3	F5	2	..	37802i	91	11930	58.8	-25 11	10.5	9.7	Go	2	..	40627b
42	3074	58.6	+39 51	8.27	9.05	G5	2	..	38773i	92	11858	58.8	-26 46	10.3	10.0	Go	2	..	17036b
43	3179	58.6	+14 14	5.10	6.45	Ma	..	5,7	1327c	93	13176	58.8	-29 53	8.03	8.2	Ao	7	..	40086b
44	3317	58.6	+9 10	8.1	8.7	Go	6	..	18982b	94	13537	58.8	-31 18	9.0	8.7	Ao	3	..	39202b
45	3624	58.6	+0 0	6.76	6.82	A2	9	..	37767i	95	11713	58.8	-33 38	8.1	8.4	Go	6	..	39202b
46	4699	58.6	-17 12	9.5	10.1	Go	2	..	16852b	96	11432	58.8	-44 14	7.9	7.6	Ao	9	..	17084b
47	4700	58.6	-17 21	7.16	7.94	G5	5	..	16852b	97	6904	58.8	-59 19	8.9	10.2	Ko	3	..	39301b
48	4698	58.6	-18 0	8.2	8.5	F2	4	..	16852b	98	2357	58.8	-70 17	8.3	8.4	A5	3	5,3 R	11672b
49	11925	58.6	-25 12	10.8	10.3	F8	1	..	40627b	99	2018	58.9	+52 44	6.74	6.74	Ao	8	..	37609i
50	11432	58.6	-27 21	8.8	8.6	A2	5	..	17036b	100	2905	58.9	+35 55	8.5	9.5	Ko	2	E	38779i

## THE HENRY DRAPER CATALOGUE.

154200

16<sup>h</sup> 58<sup>m</sup>.9

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3292	58.9	+18 28	8.7	8.8	A2	1	..	38775i	51	7874	59.2	-55 34	8.8	9.4	G5	3	..	39301b
2	4655	58.9	-12 32	6.99	7.99	Ko	7	..	39477b	52	6998	59.2	-58 3	8.6	9.0	A2	4	..	19954b
3	4412	58.9	-16 43	9.2	10.2	Ko	1	..	16852b	53	6703	59.2	-60 37	8.5	9.0	Ao	1	..	13775b
4	4627	58.9	-20 21	6.17	6.0	B3	..	R	56,139	54	5837	59.2	-62 0	9.0	9.9	F2	2	..	39370b
5	11454	58.9	-34 56	8.78	8.9	B8	5	0,4	39202b	55	1726	59.3	+57 16	8.4	9.2	G5	3	..	37802i
6	11200	58.9	-45 55	7.7	8.9	Ko	5	..	17084b	56	2784	59.3	+41 20	8.1	8.4	F2	4	..	38773i
7	8301	58.9	-57 8	9.9	9.9	Ao	2	..	39301b	57	2657	59.3	+28 0	8.8	9.1	F2	2	..	37805i
8	2032	58.9	-72 43	7.7	8.1	F5	5	..	20270b	58	3090	59.3	+16 36	10.5	11.3	G5	1	..	5404m
9	1691	59.0	+58 48	9.3	10.1	G5	1	..	37802i	59	3181	59.3	+14 22	9.8	10.6	G5	1	..	5404m
10	3102	59.0	+15 22	8.9	9.9	Ko	3	..	5404m	60	4444	59.3	-15 12	9.85	11.03	K5	1	..	40585b
11	3291	59.0	+13 36	9.1	9.2	A2	7	0,3	5404m	61	13091	59.3	-23 32	8.2	9.5	Ko	4	..	40627b
12	4436	59.0	-10 57	7.08	8.08	Ko	8	..	40585b	62	12329	59.3	-32 24	9.5	10.2	F5	2	..	39202b
13	4535	59.0	-14 26	8.6	8.9	Fo	4	..	40585b	63	11465	59.3	-34 28	11.2	9.8	Ao	1	..	40431b
14	4703	59.0	-17 49	7.8	7.9	A2	6	..	16852b	64	11462	59.3	-34 45	10.1	9.6	Ao	2	..	40431b
15	12784	59.0	-28 5	10.8	9.7	F8	2	..	40086b	65	11461	59.3	-34 50	8.9	8.9	B8	3	..	40431b
16	12322	59.0	-32 49	8.9	9.7	Ko	3	..	39202b	66	11270	59.3	-37 40	9.2	10.1	K2	1	..	17037b
17	11293	59.0	-35 47	8.8	8.6	B5	4	..	22853b	67	8305	59.3	-57 32	8.9	10.0	K2	1	..	39301b
18	11217	59.0	-36 36	7.66	7.7	B5	8	..	22853b	68	6705	59.3	-60 42	9.2	9.3	Ao	1	..	13775b
19	11263	59.0	-37 57	11.0	10.1	A2	2	R	17037b	69	5838	59.3	-61 8	8.7	9.6	A2	3	..	39370b
20	11823	59.0	-42 48	9.7	9.8	B9	2	..	19751b	70	3064	59.3	-66 4	8.5	9.5	Ko	3	..	39370b
21	11241	59.0	-47 42	8.3	9.1	Go	4	..	17084b	71	1799	59.3	-73 6	8.6	9.6	Ko	2	..	20270b
22	6702	59.0	-61 1	9.1	9.3	A2	4	..	39370b	72	1798	59.3	-73 45	8.4	8.4	Ao	6	0,5	21336b
23	3593	59.0	-64 42	8.3	9.5	K5	1	..	13775b	73	883	59.4	+69 46	7.94	8.94	Ko	2	..	38095i
24	1912	59.1	+53 50	9.1	10.1	Ko	2	..	37802i	74	2888	59.4	+34 40	7.67	7.95	Fo	4	0,3	38449i
25	3090	59.1	+40 12	7.87	8.01	A5	4	R	38773i	75	3296	59.4	+18 25	7.7	8.8	K2	2	..	38775i
26	2953	59.1	+31 50	8.1	8.2	A2	5	..	20914i	76	3154	59.4	+17 21	8.9	9.7	G5	1	..	38775i
27	2927	59.1	+29 38	7.96	9.03	K2	3	3,2	37805i	77	3091	59.4	+16 10	7.7	8.7	Ko	7	5,2	5404i
28	3292	59.1	+13 44	5.86	5.86	Ao	..	0,8	1327c	78	3295	59.4	+13 42	6.14	7.21	K2	5	2,9	38455i
29	4392	59.1	- 7 34	8.04	8.04	Ao	6	..	14191b	79	4538	59.4	-14 35	8.4	8.4	Ao	6	..	40585b
30	4443	59.1	-15 47	9.9	10.5	Go	2	..	40585b	80	4445	59.4	-15 8	9.06	10.24	K5	2	..	40585b
31	4628	59.1	-20 41	9.5	9.8	Ao	2	..	40331b	81	4515	59.4	-20 3	8.13	9.2	G5	3	..	16852b
32	11218	59.1	-36 24	9.1	8.9	Go	3	..	22853b	82	13083	59.4	-24 20	10.5	9.8	Fo	3	..	40302b
33	11533	59.1	-38 20	9.1	10.1	G5	3	..	22853b	83	13082	59.4	-24 25	8.4	9.1	K5	4	..	40302b
34	11532	59.1	-38 36	11.0	10.9	B9	1	..	22853b	84	11937	59.4	-25 41	8.6	9.4	Ko	3	..	17036b
35	8366	59.1	-53 19	9.4	9.4	Ao	2	..	19895b	85	12793	59.4	-28 40	10.8	9.7	Ao	2	..	40441b
36	3397	59.1	-65 45	9.3	9.3	B9	3	..	39370b	86	11468	59.4	-34 12	10.5	10.4	Go	1	..	40431b
37	3089	59.2	+16 30	10.1	10.9	G5	2	..	5404m	87	11541	59.4	-38 29	8.1	7.7	F2	7	..	22853b
38	3293	59.2	+13 49	8.5	9.1	Go	5	..	5404m	88	11216	59.4	-46 33	9.5	9.7	Fo	3	..	17084b
39	3319	59.2	+ 9 49	8.97	9.75	G5	2	..	18982b	89	10447	59.4	-52 57	8.6	8.2	B9	7	..	19895b
40	..	59.2	- 2 18	..	..	A	1	..	39399b	90	8370	59.4	-53 37	8.0	7.7	A2	9	..	19895b
41	11935	59.2	-25 20	8.0	8.6	Fo	6	..	40627b	91	3398	59.4	-65 11	8.40	9.0	Ko	3	..	13775b
42	12787	59.2	-28 36	11.0	11.1	A5	1	..	40441b	92	4404	59.5	-18 33	9.9	10.5	Go	3	2,1	39378b
43	11221	59.2	-36 27	8.3	8.0	B5	6	..	22853b	93	4505	59.5	-21 56	7.16	7.3	B8	8	..	40627b
44	11266	59.2	-37 33	11.5	10.1	Ao	1	..	17037b	94	13185	59.5	-29 31	8.4	10.6	Mb	2	..	40086b
45	11111	59.2	-39 32	9.2	10.4	B8	2	..	22853b	95	12334	59.5	-32 35	11.0	10.4	Ao	1	..	39202b
46	11827	59.2	-42 28	10.6	9.8	F8	2	..	19751b	96	11209	59.5	-45 38	8.4	10.2	K5	1	..	17084b
47	11436	59.2	-44 26	8.4	8.2	B8	6	..	17084b	97	11009	59.5	-50 52	8.4	8.6	Ko	4	..	19895b
48	11205	59.2	-46 0	9.9	9.7	B8	2	..	17084b	98	10452	59.5	-52 33	9.7	9.7	Ao	2	..	19895b
49	11245	59.2	-47 43	9.2	9.5	Go	3	..	17084b	99	1856	59.6	+54 44	8.4	9.4	Ko	3	..	37802i
50	11244	59.2	-47 52	7.7	8.8	G5	6	..	17084b	100	3386	59.6	+19 57	8.80	9.58	G5	2	..	38775i

## ANNALS OF HARVARD COLLEGE OBSERVATORY.

154300

16<sup>h</sup> 59<sup>m</sup>.6

H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.	H.D.	DM.	R.A. 1900	Dec. 1900	Ptm.	Ptg.	Sp.	Int.	Rem.	Pl. No.
1	3218	59.6	+19 50	6.57	7.75	K5	5	..	38775i	38	11275	59.7	-37 41	10.3	9.8	G5	2	..	17037b
2	3135	59.6	+10 41	9.1	9.2	A2	2	..	18982b	39	11218	59.7	-46 52	9.1	8.5	B5	6	..	17084b
3	3295	59.6	+7 1	10.1	10.2	A2	1	..	18982b	40	11014	59.7	-50 12	9.9	9.4	G5	2	..	19895b
4	3237	59.6	+2 54	9.1	10.1	Ko	2	..	39408b	41	11013	59.7	-50 50	9.2	8.5	Ao	6	..	19895b
5	4398	59.6	-5 28	9.5	10.1	Go	2	..	39399b	42	7880	59.7	-55 32	9.4	9.4	Ao	2	..	39301b
6	4506	59.6	-21 34	10.3	10.4	Ao	1	..	40627b	43	1126	59.7	-78 16	7.2	7.5	F2	7	..	43458b
7	13557	59.6	-31 49	8.2	8.8	Go	5	..	39202b	44	2019	59.8	+52 5	7.58	7.64	A2	4	..	37609i
8	12335	59.6	-32 55	8.8	8.5	Ao	6	..	39202b	45	2420	59.8	+47 11	6.74	7.30	Go	8	..	37609i
9	11469	59.6	-34 33	9.7	9.2	Ao	4	..	40431b	46	2889	59.8	+34 31	6.74	7.81	K2	4	0.4	38449i
10	11274	59.6	-37 5	6.14	6.3	A2	..	0,10	56,139	47	3296	59.8	+13 27	8.9	10.3	Ma	3	..	5404m
11	11272	59.6	-37 44	11.9	10.1	Ao	2	..	17037b	48	3315	59.8	+5 25	8.5	9.1	Go	3	..	37767i
12	11113	59.6	-39 10	8.00	8.7	F8	6	..	22853b	49	4508	59.8	-21 8	7.49	8.3	Ko	5	..	40627b
13	11832	59.6	-42 12	10.1	9.5	Bo	2	..	19751b	50	13190	59.8	-29 10	9.3	8.8	B9	5	..	40086b
14	11443	59.6	-44 36	10.6	9.8	B9	2	..	17084b	51	11547	59.8	-38 5	8.8	9.2	B8	4	..	22853b
15	11011	59.6	-50 35	9.2	8.8	B8	5	..	19895b	52	11441	59.8	-48 57	10.3	9.9	A3	2	..	17084b
16	10453	59.6	-52 20	9.4	9.4	Ao	2	..	19895b	53	8023	59.8	-57 1	9.0	8.6	B8	4	..	19954b
17	5839	59.6	-61 47	9.2	10.2	A2	2	..	39370b	54	6710	59.8	-60 56	9.1	9.9	G5	3	..	39370b
18	2116	59.6	-71 35	8.9	9.0	A2	3	..	20270b	55	1693	59.9	+58 42	7.13	7.55	F5	6	..	37802i
19	884	59.7	+69 20	6.52	7.52	Ko	8	R	38095i	56	2911	59.9	+35 33	6.75	8.10	Mb	5	..	38779i
20	908	59.7	+68 48	7.32	7.46	A5	4	..	38095i	57	3389	59.9	+20 11	8.3	9.4	K2	2	..	38775i
21	1692	59.7	+58 43	9.5	9.9	F5	1	..	37802i	58	3104	59.9	+15 30	9.5	10.1	Go	3	..	5404m
22	2358	59.7	+50 27	7.42	8.42	Ko	5	..	37609i	59	3335	59.9	+3 55	8.0	8.0	Ao	5	..	37767i
23	2579	59.7	+49 45	7.17	8.17	Ko	7	..	37609i	60	3627	59.9	+0 44	9.3	10.3	Ko	2	..	39408b
24	2578	59.7	+49 34	9.1	9.4	F2	3	..	37609i	61	3290	59.9	-1 40	9.8	10.8	Ko	2	..	39474b
25	2646	59.7	+44 47	8.52	9.30	G5	4	..	37609i	62	4299	59.9	-2 39	9.5	9.9	F5	2	..	39399b
26	3035	59.7	+21 1	8.9	9.7	G5	1	..	38775i	63	4225	59.9	-4 53	7.90	9.08	K5p	4	5.4 R	14191b
27	3103	59.7	+15 34	10.5	11.5	K	1	..	5404m	64	4490	59.9	-9 30	9.3	10.5	K5	1	..	40597b
28	3344	59.7	+6 51	9.1	9.9	G5	2	..	37767i	65	11880	59.9	-26 27	var.	var.	G5	6	R	17036b
29	3322	59.7	+4 50	9.05	9.33	F	2	..	37767i	66	13787	59.9	-30 5	11.3	10.6	Ao	2	..	40441b
30	3289	59.7	-1 57	10.5	10.6	A2	2	..	39399b	67	11476	59.9	-34 32	10.1	9.5	A2	2	..	40431b
31	4517	59.7	-19 14	10.1	10.1	Go	2	..	39378b	68	11306	59.9	-35 19	6.27	6.8	B3	8	..	22853b
32	12799	59.7	-28 9	10.1	9.1	F8	3	..	40086b	69	11548	59.9	-38 49	10.1	10.9	G5	1	..	22853b
33	12800	59.7	-28 44	7.39	7.8	Ao	3	1.7	43292b	70	11264	59.9	-41 32	8.9	8.7	Ao	3	..	19655b
34	13561	59.7	-31 20	9.8	10.0	Ao	2	..	40431b	71	11838	59.9	-42 42	9.2	8.9	A2	4	..	19655b
35	11472	59.7	-34 21	10.1	9.6	Ao	2	..	40431b	72	11417	59.9	-43 34	9.1	9.5	G5	3	..	17084b
36	11471	59.7	-34 28	10.3	9.2	Ao	2	..	40431b	73	11221	59.9	-46 45	7.3	8.5	Ko	6	..	17084b
37	11229	59.7	-36 58	8.1	7.7	F5	7	..	22853b	74	5841	59.9	-61 30	8.5	9.9	Ko	3	..	39370b

## REMARKS.

133582.  $\psi$  Bootis. Read 0,10 R, for 0,R.

133638. Considered at Cordoba to be variable and called T Trianguli Australis. Variability not confirmed. See H. A. 55, 69.

133640.  $\iota$  Bootis. Read 0,10 R, for 0,R.

133652. The lines 4128.1 and 4131.1 are strong. Read 1,10 R, for 1,R.

133668. The observation, Ko, on I 37217, residual 12, was rejected. The spectrum is in very poor definition on that plate.

133683. The lines are narrow, and their intensities resemble those in the spectrum of  $\delta$  Canis Majoris, H. D. 54605.133710. RT Librae. Variable. Class II. Max. 8.9. Min. 13.8. Period, 252<sup>d</sup>. On a photograph taken April 17,

# THE HENRY DRAPER CATALOGUE.

- 1895, the spectrum is of Class Ma, having the line  $H\delta$  0.8 as bright as  $H\gamma$ .
133774.  $\nu$  Librae.
133792. The strontium line, 4077.9 is very strong.
133810. The star C. P. D. —  $58^\circ 58'24$ , magn. 9.4, precedes  $7^{\circ}.0$ , north  $2^{\circ}.0$ . The spectrum is partly superposed and is of Class A.
133880. The lines 4128.1 and 4131.1 are very strong. Read 0.10 R, for 0.2.
133955.  $\lambda$  Lupi.
133962.  $k$  Bootis. Read 0.10 R, for 0.2.
134066. The line  $H\delta$  is strong for this class.
134083.  $c$  Bootis.
- 134204.5. H. D. 134204 precedes  $1^{\circ}.0$ , south  $0^{\circ}.2$ . The classification is difficult owing to the superposition of the two spectra.
134248. The observation, Ko, on I 20983, residual 10, was rejected. The spectrum is too faint and too near the edge of that plate.
134306. Also S. D. —  $2^\circ 39'50$ , magn. 8.3.
134320.  $b$  Bootis. The spectrum is somewhat peculiar in the intensities of several lines. Line 4272 is about 0.7 as strong as 4227.
134432. The lines are broad.
134439. Proper motion,  $3^{\circ}.75$ ,  $194^{\circ}.7$ .
134440. Proper motion,  $3^{\circ}.76$ ,  $194^{\circ}.8$ .
134453. X Trianguli Australis. Variable. Class III. Max. 8.2. Min. 10.0. Period, irregular.
134481.  $\kappa$  Lupi. C. P. D. —  $48^\circ 7'199$ , magn. 4.2, refers to the combined light of this star and H. D. 134482. The two spectra are partly superposed.
134488. The star C. P. D. —  $62^\circ 44'17$ , magn. 9.2, follows  $1^{\circ}.0$ , north  $0^{\circ}.4$ . The spectrum is superposed and makes that of H. D. 134488 uncertain.
134505.  $\zeta$  Lupi. The line 4226.9 is 0.8 as strong as in the spectrum of the typical star.
134506. RR Normae. Variable. Class V? Max. 9.5. Min. 10.5. Period, unknown.
- 134613.4. H. D. 134613 precedes  $1^{\circ}$ , south  $0^{\circ}.3$ , and is about 0.2 magn. fainter than H. D. 134614.
134687.  $e$  Lupi.
134739. Y Librae. Variable. Class II. Max. 7.8. Min.  $<13.0$ . Period, 272<sup>d</sup>. On a photograph taken March 12, 1897, the spectrum is of Class Mb, having the line  $H\delta$  1.5 as bright as  $H\gamma$ .
134743. N. G. C. 5873. Planetary nebula. Magn. 9.7 in the Cordoba Durchmusterung.
134755. The star —  $4^\circ 38'27$ , ptm. magn. 9.4, precedes  $1^{\circ}.0$ , north  $0^{\circ}.4$ . The magnitudes given in Table I refer to the combined light of the two stars.
134759.  $\iota$  Librae. The lines 4128.1 and 4131.1 are very strong. The light of the star is probably variable to the extent of 0.3 magn.
134783. Perhaps of Class Oe5.
134792. For the minutes of right ascension in the Bonn Durchmusterung, read 4, instead of 3. The position is correct on the Durchmusterung chart.
134793. Peculiarly strong lines are present which resemble those in the spectrum of  $\xi$  Phoenicis, H. D. 3980. The lines of strontium, 4077.9 and 4215.7 are very strong, while the silicon lines 4128.1 and 4131.1 are well marked.
134877. Announced in H. C. 60, to be of Class O, because a photograph taken with the 8-inch Bache Telescope appeared to show an emission band at 4686. A photograph taken with the 24-inch Bruce Telescope shows that the spectrum probably belongs to Class M. The object gives no evidence of variability on 59 photographs which were examined.
- 134897.8 The spectrum is composite.
- 134928.9. H. D. 134928 precedes  $0^{\circ}.3$ , south  $0^{\circ}.5$ . Both spectra appear to be similar.
135022. The observation, Ko, on I 37217, residual 12, was rejected. The spectrum is too faint on that plate.
- 135076.7. Bu. 7167. P. A.  $283^{\circ}.2$ , Dist.  $30^{\circ}.54$ . The combined photometric magnitude is 7.83.
135101. Bu. 7162. P. A.  $10^{\circ}.0$ , Dist.  $24^{\circ}.12$ , ptm. magn. 6.83 and 7.63.
135153.  $i$  Lupi.
135178. This star is double as shown on chart plates taken with the 24-inch Bruce Telescope. The two components are of nearly equal brightness and the one which precedes  $2^{\circ}$  is north  $0^{\circ}.2$ . When classifying the spectrum on Plate 31824, taken with the 8-inch Bache Telescope, the remark was recorded, "Lines hazy. Double?" It is of interest that chart images taken with the same telescope give no indication of the duplicity of the object.
135179. The spectrum is suspected to be composite.
135204. Proper motion,  $1^{\circ}.38$ ,  $247^{\circ}.4$ .
135205. Y Serpentis. Class III. Max. 8.0. Min. 9.1. Period probably irregular.
135240.  $\delta$  Circini.
135291.  $\epsilon$  Circini.
135297. Lines 4077.9, 4128.1, and 4131.1 are strong.
- 135345.6. The spectrum is composite.
135379.  $\beta$  Circini.
135382.  $\gamma$  Trianguli Australis. The lines are wide.
135456. N. G. C. 5882. Planetary nebula. Magn. 9.6 in the Cape Photographic Durchmusterung.
135502.  $\chi$  Bootis.
135513. The lines appear to be broad.
135539. The lines appear to be narrow.
135592. R Trianguli Australis. Variable. Class IV. Max. 6.7. Min. 7.4. Period,  $3^d.38922$ . The spectrum varies from Class F5 at maximum to G5 at minimum. The discordant observations, F5 and G5, on photographs taken May 11 and May 26, 1905, led to this discovery.
135599. The line  $H\gamma$  is stronger than normal, and is equal to line 4326.
135631. Bu. 7191. P. A.  $258^{\circ}.7$ , Dist.  $0^{\circ}.97$ , magn. 6.1 and 8.4. Several strong narrow lines are present, which seem to belong to the spectrum of the fainter component. One of these may be the helium line, 4026.3.
- 135642.3. H. D. 135642 precedes  $0^{\circ}.5$ , north  $0^{\circ}.3$ .
135722.  $\delta$  Bootis. The spectrum resembles that of a Cassiopeiae.
135734.  $\mu$  Lupi. Read 1.10 R, for 1.2. Innes  $15^h 27$ . With H. D. 135748, this star = Dunlop 180, P. A.  $130^{\circ}.2$ , Dist.  $23^{\circ}.4$ .

135742.  $\beta$  Librae.
135748. Helium lines are probably present but they are concealed by the superposition of the spectrum of H. D. 135734. The photographic magnitude depends upon the magn. 9.0 in the Cape Durchmusterung, which is apparently too faint.
135758.  $f$  Lupi.
- 135774.5. The spectrum is composite.
135848. The lines are broad.
136066. N. G. C. 5904. Messier 5. Globular cluster, containing 84 known variable stars. On a photograph taken with the 8-inch Telescope and having the dispersion of 1.60 mm. from  $H\beta$  to  $H\epsilon$ , the spectrum of the cluster bears some resemblance to that of the Sun. The absorption bands, H and K, and Fraunhofer's G band are seen.
136107. The contrast between the brightness of the continuous spectrum from  $H\beta$  to  $H\gamma$ , to that from  $H\gamma$  to  $H\delta$  is very marked. Variability was suspected because the line  $H\delta$  is bright. No evidence of variation was found, however, on 20 chart photographs which were examined.
136175. U Coronae Borealis. Class V. Max. 7.9. Min. 9.1. Period,  $3^d.452211$ .
136202. Read 2,10, for 2,2.
136239. The line  $H\beta$  is suspected to be bright.
136298.  $\delta$  Lupi. The lines are wide.
136347. The lines 4128.1 and 4131.1 are strong.
136351.  $\mu$  Lupi.
136352.  $\mu$  Lupi. Proper motion,  $1^{\circ}.67$ ,  $260^{\circ}.8$ .
136357. The lines are narrow.
136407.  $\circ$  Librae.
- 136415.6.  $\gamma$  Circini. The spectrum is composite. See also H.A. 28, 184, Remark 102.
136422.  $\phi^1$  Lupi.
136446. — Librae. Variable. Max. 10.9. Min. 11.5. Class and period unknown. Insert 2 in column 9.
136458. S Librae. Variable. Class II. Max. 7.6. Min. <13. Period,  $192^d.1$ . A faint spectrum on a photograph taken July 2, 1909, has the lines  $H\gamma$ ,  $H\delta$ , and possibly  $H\beta$  bright.
136488. The spectrum contains numerous strong dark lines and may resemble that of  $\gamma$  Velorum, H. D. 68273. A close comparison is difficult owing to the small dispersion with which the spectrum of H. D. 136488 has been photographed.
136504.  $\epsilon$  Lupi.
136512.  $\circ$  Coronae Borealis.
136526. Proper motion,  $1^{\circ}.04$ ,  $113^{\circ}.6$ .
136543. U Apodis. Variable. Max. 10.2. Min. <11.8. Class and period unknown. The spectrum is slightly peculiar. The bright band from 4340 to 4640 is fainter than in the typical spectrum.
136557. The star C. P. D. —  $52^{\circ} 8240$ , magn. 8.6, precedes  $2^{\circ}.0$ , north  $1^{\circ}.1$ . The spectrum is partly superposed and is of Class A.
136619. Perhaps of Class K5.
- 136635.6. H. D. 136635 precedes  $1^{\circ}.5$ , in the same approximate declination.
136664.  $\phi^2$  Lupi. The lines are wide. Read 0,10 2, for 0,2.
136685. This star is C. D. M. —  $58^{\circ} 6019$ , magn. 9.9, and is not contained in the Cape Photographic Durchmusterung.
136695. S Serpentis. Variable. Class II. Max. 7.6. Min. 13.8. Period,  $368^d.5$ . On a photograph taken July 29, 1907, the spectrum is of Class Mb, having the line  $H\delta$  twice as bright as  $H\gamma$ .
136734. RW Librae. Variable. Class II. Max. 8.6. Min. 11.7. Period, about  $490^d$ . On a photograph taken June 3, 1907, the spectrum has the lines  $H\beta$ ,  $H\gamma$ , and  $H\delta$  bright. The intensities are 8, 10, and 3, respectively. The continuous spectrum is much stronger between  $H\beta$  and  $H\gamma$  than in other portions. It is not well defined but probably resembles that of R Andromedae, H. D. 1967.
136753. S Coronae Borealis. Variable. Class II. Max. 6.1. Min. 13.4. Period,  $361^d.2$ . On a photograph taken March 31, 1914, the spectrum is of Class Mc, having the line  $H\delta$  6 times as bright as  $H\gamma$ .
- 136771.2. H. D. 136771 precedes  $0^{\circ}.0$ , south  $0^{\circ}.2$ .
136848. In H.A. 56, 240, incorrectly classified B8.
136882. In H.A. 56, 240, incorrectly classified B8.
136933.  $\nu$  Lupi.
136949. The class is uncertain. H. D. 136972 follows  $6^{\circ}.5$ , south  $4^{\circ}.0$ . The spectra are partly superposed.
136951. The lines are broad.
136986. RS Librae. Variable. Class II. Max. 7.1. Min. 13.0. Period,  $219^d$ . On a photograph taken May 7, 1894, the spectrum is of Class Mc, having the line  $H\delta$  very bright.
137052.  $\epsilon$  Librae. The lines are probably narrow.
137053. Two stars of nearly equal photographic brightness correspond to the Durchmusterung number. The star which is slightly brighter precedes  $0^{\circ}.25$  and is south  $32^{\circ}.6$ . The spectra are probably similar.
137058.  $k$  Lupi.
- 137107.8.  $\eta$  Coronae Borealis. Bu. 7251. P. A.  $35^{\circ}.3$ , Dist.  $1^{\circ}.07$ , combined magn. 5.05.
137139. The star C. P. D. —  $58^{\circ} 5928$ , magn. 8.8, follows  $1^{\circ}.5$ , north  $0^{\circ}.5$ . The spectrum is superposed and is of Class Ko or K5. In column 1, for 49, read 39.
137170. The lines are narrow and 4226.9 is strong for this class.
137231. This star is C. P. D. —  $37^{\circ} 6494$ , and is not contained in the Cordoba Durchmusterung.
137287. R Circini. Variable. Class III. Max. 9.8. Min. 10.9. Period probably irregular.
137333.  $\rho$  Octantis.
137387.  $\kappa^1$  Apodis. The spectrum is very peculiar, as described in H.A. 28, 183, Remark 100. The lines  $H\beta$  and  $H\gamma$  are bright and variable. The star may be a spectroscopic binary.
- 137391.2.  $\mu$  Bootis. Bu. 7258. P. A.  $171^{\circ}.8$ , Dist.  $108^{\circ}.26$ , combined magn. 4.33. H. D. 137392 is also double. Bu. 7259. P. A.  $140^{\circ}.3$ , Dist.  $0^{\circ}.65$ , magn. 6.7 and 7.3.
137422.  $\gamma$  Ursae Minoris. The line K is strong for this class.
137471.  $\tau^1$  Serpentis.
137603. The spectrum is faint but shows clearly the bright band 4686, which was also confirmed on another plate.
137677. Nova Normae. The star was photographed first



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- on a spectrum plate taken on July 10, 1893. The spectrum consisted of bright and dark bands and resembled that of Nova Aurigae in February, 1892. On February 28, 1894, the spectrum of Nova Normae was that of a gaseous nebula, having the band 4363 very bright. See also H.A. 76, 37.
137708. The star C.P.D. —  $41^{\circ} 7224$ , magn. 9.5, follows  $1^{\circ}.6$ , in the same approximate declination. The spectrum is superposed and is also of Class A.
137759.  $\epsilon$  Draconis. The spectrum resembles that of a Cassiopeiae in the distribution of light.
137843. The star C.P.D. —  $75^{\circ} 1197$ , magn. 8.4, precedes  $9^{\circ}.0$ , south  $2^{\circ}.4$ . The spectrum is partly superposed and appears to be of Class B.
137909.  $\beta$  Coronae Borealis. The spectrum is peculiar in the relative intensities of the lines and resembles the spectrum of  $\alpha$  Persei, H.D. 20902, except that the lines appear to be less narrow.
137939. The lines appear to be narrow.
137949. The strontium lines 4077.9 and 4215.7 are very strong. The spectrum resembles that of  $\xi$  Phoenicis, H.D. 3980.
137964. The lines appear to be broad.
138001. The lines are hazy, and the star is suspected to be double.
138141. The star C.P.D. —  $52^{\circ} 8474$ , magn. 8.6, precedes  $1^{\circ}.0$ , south  $0^{\circ}.3$ . The spectrum is superposed and is of Class B<sub>9</sub> or A<sub>0</sub>.
- 138248.9. H.D. 138248 precedes  $3^{\circ}.43$ , north  $9^{\circ}.8$ .
138279. — Serpentis. Variable. Max. 9.3. Min. 10.1. The class of spectrum indicates variability in short period.
138289. The absorption at the region of 4227 is stronger than normal.
138371. This star is also —  $1^{\circ} 3064$ , magn. 8.0.
138395. The star C.D.M. —  $40^{\circ} 9732$ , ptm. magn. 10.4, follows  $4^{\circ}.2$ , north  $1^{\circ}.1$ . The photometric magnitude probably refers to the combined light of the two stars.
138403. The lines H $\beta$ , H $\gamma$ , and H $\delta$  are bright, and superposed on an apparently continuous spectrum which resembles those of the P Cygni type described in H.A. 76, 31.
138481.  $\nu$  Bootis.
138485.  $\zeta$  Librae.
138518. The lines are broad.
138527.  $\tau^2$  Serpentis.
138538.  $\epsilon$  Trianguli Australis.
138547. RU Librae. Variable. Class II. Max. 8.0. Min. 13.5. Period, 314<sup>d</sup>. On a photograph taken May 15, 1909, the spectrum is of Class Mc, having the lines H $\gamma$ , H $\delta$ , H $\epsilon$ , and H $\eta$  bright. The relative intensities are 10, 80, 2, and 1, respectively.
138562. A<sup>1</sup> Serpentis.
138605. The star C.P.D. —  $55^{\circ} 6626$ , magn. 9.2, precedes  $0^{\circ}.5$ , north  $0^{\circ}.6$ . The spectrum is superposed and is also of Class A.
138690.  $\gamma$  Lupi. The lines are broad.
138709. The lines are broad.
138743. R Normae. Variable. Class II. Max. 6.9. Min. 11.5. Period, 480<sup>d</sup>.7. Bright lines have not been photographed in this spectrum.
138749.  $\theta$  Coronae Borealis.
138769.  $d$  Lupi.
138800.  $\kappa^2$  Apodis.
138905.  $\gamma$  Librae. The distribution of light resembles that in the spectrum of  $\alpha$  Bootis.
- 138917.8.  $\delta$  Serpentis. Bu. 7318. P.A.  $185^{\circ}.0$ , Dist.  $3^{\circ}.49$ , combined magn. 3.85.
139006.  $\alpha$  Coronae Borealis.
139016. The spectrum is indistinct and may be nearer to Class F than to G.
139050. C.P.D. —  $45^{\circ} 7519$ . The lines are wide. The star C.P.D. —  $45^{\circ} 7517$ , magn. 9.6, precedes  $1^{\circ}.0$ , north  $0^{\circ}.2$ . This star is at least 0.5 magn. fainter than H.D. 139050 on chart plates.
139063.  $\nu$  Librae. A typical star of Class K<sub>2</sub>. See page 8.
139074.  $\tau^2$  Serpentis.
139127.  $\omega$  Lupi.
139153.  $\mu$  Coronae Borealis.
139195. The observation, Go, on I 37689, residual 10, was rejected. The spectrum is too dense on that plate.
139225.  $\tau^2$  Serpentis.
- 139275.6. The spectrum is composite.
- 139298.9. The spectrum is composite.
139319. TW Draconis. Variable. Class V. Max. 7.8. Min. 9.8. Period, 2<sup>d</sup>.806523.
139365.  $\tau$  Librae.
139425. The class is uncertain due to the superposition of the spectrum of H.D. 139424, which precedes  $0^{\circ}.6$ , north  $3^{\circ}.9$ .
139459. The minutes of declination of this star are given in the Bonn Durchmusterung as 29.5, whereas on the photograph, they are about 26'. It is assumed that 25.9 was intended in the Durchmusterung.
- 139460.1. Bu. 7334. P.A.  $188^{\circ}.3$ , Dist.  $11^{\circ}.89$ , combined magn. 5.82. The lines appear hazy, and the two spectra are probably alike or nearly alike.
139492. S Ursae Minoris. Variable. Class II. Max. 7.5. Min. 11.0. Period, 324<sup>d</sup>. On a photograph taken February 16, 1896, the spectrum is of Class Mc, having the line H $\delta$  bright.
139521.  $\nu^1$  Lupi. The line 4226.9 appears to be less intense than in the typical spectrum.
139535. — Trianguli Australis. Variable. Class III. Max. 9.7. Min. 10.5. The period is probably irregular.
139588. RT Coronae Borealis. Variable. Max. 9.2. Min. 9.7. Class and period unknown.
139641.  $\phi$  Bootis. Read 0, 10 R, for 0, R.
139664.  $g$  Lupi.
139669.  $\theta$  Ursae Minoris.
139717. U Normae. Variable. Class IV. Max. 8.6. Min. 9.2. Period, 12<sup>d</sup>.641.
139788. The star C.D.M. —  $42^{\circ} 10665$ , ptm. magn. 10.3, precedes  $3^{\circ}.9$ , south  $0^{\circ}.4$ . The spectrum is superposed and appears to be also of Class G.
- 139792.3. The spectrum is composite. Innes  $15^{\circ} 72$ . P.A.  $103^{\circ}.7$ , Dist.  $7^{\circ}.17$ , magn. 8.5 and 10.0.
139812. The spectrum is indistinct. It is partly superposed on that of H.D. 139855. The latter star follows  $12^{\circ}.2$ , south  $4^{\circ}.6$ .

139815. RW Coronae Borealis. Variable. Class IV. Max. 9.3. Min. 9.8. Period,  $0^d.7264372$ .
- 139891.2.  $\zeta$  Coronae Borealis. Bu. 7352. P. A.  $304^{\circ}.3$ , Dist.  $6'.15$ , combined magn. 4.69. The two spectra are probably similar.
139927. This is C.P.D.  $-30^{\circ} 4165$ . The star C.P.D.  $-30^{\circ} 4164$ , magn. 9.6, precedes  $2^{\circ}.0$ , north  $0'.4$ . The spectrum is probably also of Class K.
139980. h Lupi. Read  $5,10$  R, for  $5, R$ .
139997.  $\kappa$  Librae.
140008.  $\psi^2$  Lupi.
140027.  $\tau^4$  Serpentis.
140041. T Normae. Variable. Class II. Max. 7.0. Min. 12.0. Period,  $243^d.9$ . On photographs taken June 9, 1899 and May 3, 1907, the spectrum is of Class Mb, having H $\gamma$  and H $\delta$  equally bright. On June 10, 1907, the line H $\delta$  was 5 times as bright as H $\gamma$ .
- 140069.70. H. D. 140070 follows  $1^{\circ}.36$ , north  $15^{\circ}.0$ , and is about 0.1 magn. brighter than H. D. 140069. The two spectra are probably alike.
140159.  $\iota$  Serpentis. Read  $2,10$  R, for  $2, R$ .
140160.  $\chi$  Serpentis. Line 4077.9 is strong and equal to the line K.
140225. The lines are narrow. Perhaps of Class B8.
140232.  $\tau^7$  Serpentis.
140283. Proper motion,  $1''.18$ ,  $253^{\circ}.3$ . The spectrum is slightly peculiar in having the line K too faint for this class. It may be composite.
140297. RR Coronae Borealis. Variable. Class III. Max. 7.2. Min. 7.9. Period irregular.
140417.  $\eta$  Librae.
140436.  $\gamma$  Coronae Borealis.
- 140483.4. Innes  $15^h 80$ . P. A.  $152^{\circ}.0$ , Dist.  $1^{\circ}.85$ , combined magn. 5.75.
140522. This star is C.P.D.  $-50^{\circ} 8556$ , magn. 8.8. It is uncertain whether it is C. DM.  $-50^{\circ} 9809$  or  $9810$ .
- 140523.4. The spectrum is composite.
140538.  $\psi$  Serpentis.
140556. In the Bonn Durchmusterung Catalogue, for the minutes of declination, read 23.8, instead of 33.8. The position is correct on the charts of the Durchmusterung.
140573.  $\alpha$  Serpentis. In the distribution of light this spectrum resembles that of  $\alpha$  Cassiopeiae.
140586. A gaseous nebula.
140616. N. G. C. 5986. Dunlop 552. A globular cluster containing one known variable star.
140716.  $\pi$  Coronae Borealis.
140728. The lines 4128.1 and 4131.1 are very strong. Read  $1,10$  R, for  $1, R$ .
140729.  $\tau^4$  Serpentis.
140742. The spectrum is suspected to be composite.
140873. A $^3$  Serpentis. Read  $0,10$  R, for  $0, R$ .
141003.  $\beta$  Serpentis. The lines are wide and a slight variation in their width is suspected.
141004.  $\lambda$  Serpentis.
141052. This star is C.P.D.  $-43^{\circ} 7300$ . There is a slight error in the position of C. DM.  $-43^{\circ} 10251$ , and the declination is given according to the Cape Photographic Durchmusterung.
141187.  $\nu$  Serpentis. Read  $0,10$  R, for  $0, R$ .
141265. Y Coronae Borealis. Variable. Class III. Max. 9.8. Min.  $10.8$ . Period, irregular.
141324. SS Librae. Variable. Class V. Max. 9.6. Min.  $10.6$ . Period,  $0^d.71896$ .
141338. The class is uncertain. The star  $-38^{\circ} 10686$ , ptm. magn. 10.6, follows  $1^{\circ}.5$ , north  $1'.5$ .
- 141424.5. C. DM.  $-26^{\circ} 11054$  = C.P.D.  $-26^{\circ} 5515$  and 5516. The former precedes  $1^{\circ}.5$ , south  $0'.1$ . Both spectra are probably of Class G5.
141477.  $\kappa$  Serpentis. Read  $0,10$  R, for  $0, R$ .
141490. The observation, Ko, on I 38470, residual 10, was rejected. The spectrum is too faint on that plate.
141513.  $\mu$  Serpentis.
141527. R Coronae Borealis. Variable. Class III. Max. 5.8. Min.  $<13.8$ . Period irregular. The spectrum is peculiar and on photographs of small dispersion appears to contain bright lines, but it is not certain whether these are lines or spaces. The G band is absent as a distinct absorption band. See H. A. 56, 107, Remark 108 for a more detailed description of the spectrum.
141556.  $\chi$  Lupi.
141637. b Scorpii. Read  $0,10$  R, for  $0, R$ .
141678. X Coronae Borealis. Variable. Class II. Max. 8.1. Min.  $13.8$ . Period,  $243^d$ . On photographs taken May 1 and May 23, 1905, the spectrum is of Class Mb, having the line H $\delta$  3 times as bright as H $\gamma$ .
141680.  $\omega$  Serpentis. Read  $0,10$  R, for  $0, R$ .
141714.  $\delta$  Coronae Borealis.
141722. This star is C.P.D.  $-37^{\circ} 6586$ . The declination is given according to the Cape Photographic Durchmusterung. In the Cordoba Durchmusterung, the declination is  $1'.9$  too far south.
141767.  $\kappa$  Trianguli Australis.
141795.  $\epsilon$  Serpentis.
141826. V Coronae Borealis. Variable. Class II. Max. 7.2. Min. 12.0. Period,  $358^d.1$ .
141844. The star C.P.D.  $-62^{\circ} 5007$ , magn. 9.2, follows  $3^{\circ}.7$ , north  $0'.6$ . The spectrum is partly superposed and is also of Class A.
141850. R Serpentis. Variable. Class II. Max. 5.6. Min. 13.0. Period,  $357^d.2$ . On a photograph taken April 17, 1914, the spectrum is of Class Mb, having H $\gamma$ , H $\delta$ , H $\epsilon$  and H $\eta$  bright. The relative intensities are 10, 20, 2 and 1, respectively. On April 25, 1912, when the star was fainter than on April 17, 1914, the line H $\delta$  was 10 times as bright as H $\gamma$ .
141851. b Serpentis. Read  $0,10$  R, for  $0, R$ .
141861. Perhaps of Class K5.
141891.  $\beta$  Trianguli Australis.
141926. The spectrum is of Class B0 or Oe5.
141969. The spectrum appears to be continuous except that H $\beta$ , H $\gamma$  and H $\delta$  are bright. The relative intensities are 2, 10, and 3, respectively. Probably of the P Cygni type.
141988. Lines 4077.9, 4128.1 and 4131.1 are strong.
141992.  $\rho$  Serpentis.
142022. In H. A. 56, 137, the spectrum of this star is given incorrectly as A2, due to an error of identification.

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142049. Line 4077.9 is well marked.
142063. This star is C.P.D. —  $50^{\circ} 8772$ . It may also be the same as C. DM. —  $50^{\circ} 9973$ , magn. 9.8, if we assume that the declination is  $1'$  too far north in that catalogue.
142080. Innes  $15^h 93$ . P. A.  $12^{\circ} 3$ , Dist.  $12''.31$ , magn. 7.4 and 7.7.
142091.  $\alpha$  Coronae Borealis.
142096.  $\lambda$  Librae.
142105.  $\zeta$  Ursae Minoris.
142114. A Scorpii. Read  $0,10 R$ , for  $0, R$ .
142143. ST Herculis. Variable. Class III. Max. 7.4. Min. 8.1. Period, irregular.
142198.  $\theta$  Librae.
142282. The lines are probably narrow.
- 142292.3. The spectrum is composite.
142373.  $\chi$  Herculis.
142384. The magn. 9.7, of this star in the Cordoba Durchmusterung is wrong, unless the light is variable. For ptm. magn. in Table I, read 7.3 instead of 9.3.
142387. The class of spectrum is uncertain. The star C.D.M. —  $50^{\circ} 9997$ , ptm. magn. 11.6, precedes  $3^{\circ} 0$ , south  $0'.7$ .
142434. The star C. DM. —  $51^{\circ} 9633$ , ptm. magn. 10.6, precedes  $5^{\circ} 3$ , north  $0'.1$ . The spectrum is partly superposed, and is also of Class A.
142436. The spectrum is suspected to be composite.
142560. RU Lupi. Variable. Class III. Max. 9.0. Min. 11. Period, probably irregular. The spectrum is very peculiar.  $H\beta$ ,  $H\gamma$  and  $H\delta$  are bright, also the bands H and K. See H. C. 196.
142607. The lines are broad.
- 142629.30.  $\xi$  Lupi. Innes  $15^h 97$ . P. A.  $48^{\circ} 4$ , Dist.  $10''.6$ , combined magn. 4.78.
142641. RR Librae. Variable. Class II. Max. 8.4. Min. 14. Period,  $276^d.7$ . On photographs taken July 5, 1894, and April 30, 1898, the spectrum is of Class Mb, having  $H\gamma$  and  $H\delta$  approximately equal in brightness.
142669.  $\rho$  Scorpii. The lines are wide. The line 3994.9 is slightly stronger than in the typical spectrum.
- 142691.2. The spectrum is composite.
- 142713.4. The spectrum is composite.
142843. The spectrum is indistinct. The star H. D. 142844 precedes  $1^{\circ} 2$ , south  $3'.4$ .
142846. The hydrogen lines are narrow. The spectrum may be composite.
142860.  $\gamma$  Serpentis. Proper motion,  $1''.32$ ,  $168^{\circ} 2$ .
- 142903.4. H. D. 142903 precedes  $2^{\circ}$ , and is in the same approximate declination as H. D. 142904.
142908.  $\lambda$  Coronae Borealis. Read  $0, 10 R$ , for  $0, R$ .
142927. Z Coronae Borealis. Variable. Class II. Max. 8.9. Min. 14.4. Period,  $245^d$ . On a photograph taken April 2, 1905, the spectrum is of Class Ma, having the lines  $H\gamma$  and  $H\delta$  approximately equal in brightness.
142941. S Trianguli Australis. Variable. Class IV. Max. 6.4. Min. 7.4. Period,  $6^d.3231$ . The spectrum changes from Class F5 at maximum to Class K0 at minimum.
142980.  $\phi$  Serpentis.
142983. The spectrum is peculiar in combining sharply defined hydrogen lines with very wide and ill-defined helium lines. In this respect it resembles the spectrum of  $\epsilon$  Capricorni described in H.A. 28, 183, Remark 95. Perhaps H. D. 142983 is a spectroscopic binary.
143018.  $\pi$  Scorpii. A spectroscopic binary in which both components are bright and of the same class of spectrum. The lines are double in a period of  $1^d.571$ . See H.A. 28, 178, Remark 46, for a detailed description of the spectrum.
143076. The right ascension of this star is erroneously given in H.A. 56, 221 as  $15^h 54^m.2$ .
143085. — Normae. Variable. Max. 8.6. Min. 9.3. Class and period, unknown.
143107.  $\epsilon$  Coronae Borealis. Read  $0,10 R$ , for  $0, R$ .
143118.  $\eta$  Lupi.
143154. The line  $H\beta$  was suspected to be bright, but an examination of several other photographs failed to confirm it.
143275.  $\delta$  Scorpii. A spectroscopic binary having both spectra visible. The spectra are nearly, if not exactly, alike. See H.A. 28, 94, Remark 25, and 176, Remark 21.
143287. The magnitude 8.28, given in H.A. 54, 172, refers to the combined light of this star and H. D. 143309.
143290. The star  $+42^{\circ} 2656$ , ptm. magn. 9.9, precedes  $0^{\circ} 2$ , north  $7'.4$ . The spectrum is partly superposed and is of Class F8.
143309. See H. D. 143287.
143340. The star C.P.D. —  $60^{\circ} 6325$ , magn. 8.6, precedes  $0^{\circ} 2$ , north  $1'.5$ . The photometric magnitude refers to the combined light of the two stars.
143347. RS Coronae Borealis. Variable. Class III. Max. 8.5. Min. 9.5. Period probably irregular.
- 143448.9. The lines  $H\beta$  and  $H\gamma$  are bright in the spectrum of H. D. 143448. Owing to the superposition of the two spectra, only the hydrogen lines are well defined in the spectrum of H. D. 143449. Traces of helium lines make it probable, however, that its spectrum is of a late B type.
143454. T Coronae Borealis. This star was observed at Bonn in 1855, magn. 9.5. On May 12, 1866, it rose to the magn. 6.6. Bright lines were observed in the spectrum at the time of the outburst. See H.A. 55, 47, and 76, 37. On a photograph taken here April 22, 1914, the spectrum shows no bright lines and appears to be of Class K0.
143474.  $\delta$  Normae.
143481. The spectrum is faint and may be nearer to Class F than to G.
143546.  $\eta$  Normae.
143549. The line K is strong. Perhaps the lines are narrow.
143584. The lines are narrow. Read  $5,10 R$ , for  $5, R$ .
143608. The star C.P.D. —  $59^{\circ} 6586$ , magn. 8.9, follows  $1^{\circ} 1$ , south  $1'.9$ . The spectrum is partly superposed and appears to be of Class K.
143623. The spectrum is suspected to be composite.
143666.  $\tau$  Herculis.
143761.  $\rho$  Coronae Borealis.
143807.  $\iota$  Coronae Borealis.
143808. This spectrum was also observed on I 38719, and was recorded as of Class G5. This was certainly due to error either by observer or recorder, as second examination shows the class to be F5.

143882. Z Normae. Variable. Class V. Max. 8.6. Min. 10.0. Period, unknown.
143894.  $\pi$  Serpentis.
143939. Lines 4128.1 and 4131.1 are strong.
143999. U Trianguli Australis. Variable. Class IV. Max. 7.8. Min. 8.4. Period, 2<sup>d</sup>.5683.
144018. RZ Scorpii. Variable. Class II. Max. 8.0. Min. <13. Period, 158<sup>d</sup>. On a photograph taken July 29, 1908, the spectrum is of Class Mb, having the lines H $\delta$  and H $\gamma$  nearly equally bright.
144059. The lines are probably narrow.
- 144069,70.  $\xi$  Scorpii. Bu. 7487. Stars A and B. P. A. 187<sup>o</sup>.8, Dist. 0<sup>o</sup>.20, combined magn. 4.16. The spectrum of Star C, Dist. 7<sup>o</sup>.34, magn. 7.2, is not seen.
- 144087,8. H. D. 144088 follows 0<sup>o</sup>.7, south 0<sup>o</sup>.1. The magnitudes in the Durchmusterung are 7.6 and 8.2, respectively. The spectra are alike, or nearly alike.
144197.  $\delta$  Normae. The line 4077.9 is very strong. The spectrum is otherwise peculiar and suggests a composite type, as described in H. A. 28, 187, Remark 163.
144205. X Herculis. The variation, if real, is small and probably irregular.
144206.  $\nu$  Herculis.
- 144208,9. The spectrum is composite.
- 144217,8.  $\beta$  Scorpii. Bu. 7493. P. A. 25<sup>o</sup>.1. Dist. 13<sup>o</sup>.27, combined magn. 2.76. The brighter component is a spectroscopic binary. The lines are double on photographs taken with the 12-inch Draper Telescope, as described in H. A. 28, 177, Remark 35.
144284.  $\theta$  Draconis. Read 3,10 R, for 3,R.
144294.  $\theta$  Lupi.
144311. Z Scorpii. Variable. Class II. Max. 9.2. Min. 11.5. Period, 370<sup>d</sup>. On a photograph taken May 22, 1909, the spectrum is of Class Mc, having the line H $\delta$  7 times as bright as H $\gamma$ .
- 144368,9. C. DM. - 33<sup>o</sup> 10924 = C.P.D. - 33<sup>o</sup> 3973 and 3974. H. D. 144369 follows 1<sup>o</sup>.0, in the same declination.
144470.  $\omega^1$  Scorpii.
144480.  $\epsilon^3$  Normae. Read 0,10 R, for 0,R.
- 144506,7. The spectrum is composite.
- 144534,5. The spectrum is composite.
- 144563,4. H. D. 144563 precedes 0<sup>o</sup>.5, north 0<sup>o</sup>.7. The magnitudes in the Durchmusterung are 8.5 and 7.5, respectively.
144578. RR Herculis. Variable. Class III. Max. 7.8. Min. 9.5. On a photograph taken April 8, 1905, the spectrum is seen only between H $\beta$  and H $\gamma$ , and a bright space or line is visible having somewhat greater wave length than H $\gamma$ .
144608.  $\omega^2$  Scorpii. The spectrum is slightly peculiar. The distribution of the light resembles that of Class Ko, but the intensities of the lines are more nearly like those of Class Go.
144622. R Herculis. Variable. Class II. Max. 8.6. Min. 14.8. Period, 317<sup>d</sup>.7. On a photograph taken April 24, 1914, the spectrum is of Class Ma, having the lines H $\gamma$  and H $\delta$  nearly equal in brightness.
- 144667,8. H. D. 144667 follows 0<sup>o</sup>.3, north 0<sup>o</sup>.8. This star is brighter than H. D. 144668 on chart photographs, as well as in the Cape and Cordoba Durchmusterungs, but fainter according to the Harvard photometric measures.
- 144692,3. The lines are very broad and indistinctly double. Chart photographs show two stars of nearly equal brightness, one preceding 1<sup>o</sup> and north 0<sup>o</sup>.3. Both spectra appear to be of Class A.
144718. The star C.P.D. - 65<sup>o</sup> 3237, magn. 9.1, precedes 8<sup>o</sup>.5, north 0<sup>o</sup>.2. The spectrum is partly superposed and is of Class K. In H. A. 54, 173, the magnitude of the combined light of these two stars is given as 8.63.
144781. The observation, G5, on I 38782, residual 10, was rejected. The spectrum is too faint on that plate.
144782. U Serpentis. Variable. Class II. Max. 8.3. Min. 13.7. Period, 240<sup>d</sup>. On a photograph taken April 29, 1897, the spectrum is of Class Mb, having the lines H $\gamma$  and H $\delta$  bright and of nearly equal intensity.
144788. The star, C.D.M. - 34<sup>o</sup> 10796, ptm. magn. 8.8, follows 2<sup>o</sup>.4, north 2<sup>o</sup>.0. The spectrum is partly superposed and is probably of Class G.
144813. V Normae. Variable. Class III. Max. 8.9. Min. 9.9. Period, irregular.
144855. The star C.P.D. - 53<sup>o</sup> 7212, magn. 9.2, precedes 0<sup>o</sup>.5, north 0<sup>o</sup>.9. The spectrum is partly superposed and is of Class A.
144921. SX Herculis. Variable. Class unknown. Max. 8.8. Min. 9.7. Period, 101<sup>d</sup>?
- 144927,8. Innes 16<sup>a</sup> 5. P. A. 85<sup>o</sup>.2, Dist. 7<sup>o</sup>.85, combined magn. 6.30.
- 145000,1.  $\kappa$  Herculis. Bu. 7514. P. A. 11<sup>o</sup>.2, Dist. 29<sup>o</sup>.66, combined magnitude 5.02. Owing to the slight difference of the two stars in right ascension, the class of spectrum of H. D. 145001 is not certainly defined, but it appears to be similar to that of H. D. 145000.
145008. The spectrum is faint. A photograph taken with the 24-inch Bruce Telescope shows that the class is probably F2 or F5.
145025. The star - 7<sup>o</sup> 4207, ptm. magn. 10.4, follows 5<sup>o</sup>.4, in the same approximate declination. The spectrum is superposed and appears to be of Class G.
145291. The star - 2<sup>o</sup> 4119, ptm. magn. 10.7, precedes 1<sup>o</sup>.9, north 0<sup>o</sup>.4. The spectrum is superposed and appears to be also of Class K.
145328.  $\tau$  Coronae Borealis. Read 0,10 R, for 0,R.
- 145358,9. H. D. 145359 follows 1<sup>o</sup>.3, north 0<sup>o</sup>.1. The two spectra are probably alike.
145366.  $\delta^1$  Apodis.
145388.  $\delta^2$  Apodis.
145389.  $\phi$  Herculis. The spectrum is peculiar in having the line K nearly as strong as in  $\alpha$  Canis Majoris while the helium lines 4026.3 and 4471.6 are also strong.
145397.  $\kappa$  Normae.
145415. Bright lines are seen in this spectrum, but it is doubtful whether they are real or due to the superposition of spectra of adjacent stars of the cluster.
145459. RU Herculis. Variable. Class II. Max. 7.3. Min. 14.2. Period, 486<sup>d</sup>. On a photograph taken July 9, 1899, the spectrum is of Class Mc, having the line H $\delta$  6 times as bright as H $\gamma$ .
145482.  $\epsilon^2$  Scorpii.

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145483.  $\epsilon^1$  Scorpii. Bu. 7533, quadruple star. H.D. 145501 represents Stars C and D. P.A.  $48^\circ.0$ , Dist.  $1''.88$ , magn. 7.0 and 8.0. The spectrum is so much superposed upon that of H.D. 145502 that only the lines H $\beta$ , H $\gamma$ , H $\delta$  and H $\epsilon$  are identified. Helium lines may be present, but if so, they are too faint to be distinguished. H.D. 145502 represents Stars A and B. P.A.  $365^\circ.5$ , Dist.  $1''.07$ , magn. 4.3 and 6.8.
145509. The star C.D.M. —  $41^\circ 10570$ , ptm. magn. 9.9, follows  $5''.4$ , south  $2''.7$ . The spectrum is partly superposed and is probably also of Class F8.
- 145527.8. The spectrum is composite.
145544.  $\delta$  Trianguli Australis.
145570.  $\psi$  Scorpii.
145647.  $\eta$  Herculis.
145649. I. C. 4593. Planetary nebula.
145743. In H.A. 54, 74, the combined light of this star and H.D. 145772 is given as 8.19.
145772. See H.D. 145743.
145779. The star C.D.M. —  $29^\circ 12382$ , ptm. magn. 10.8, follows  $8''.8$ , south  $0''.2$ . The spectrum is not seen. The photometric magnitude refers to the combined light.
145807. — Scorpii. Variable. Class III. Max. 10. Min. 11. Period, irregular.
145842.  $\theta$  Normae.
145846. The lines are very narrow. H $\beta$  is not seen distinctly and is suspected to be bright.
145897.  $\chi$  Scorpii. Read 0.10 R, for 0.2.
145905. RU Normae. Variable. Class II. Max. 9.9. Min. <13. On a photograph taken August 3, 1899, the spectrum is of Class Mb, having the line H $\delta$  8 times as bright as H $\gamma$ .
- 145922.3. C.D.M. —  $50^\circ 10296$  = C.P.D. —  $50^\circ 9126$  and 9127. The former precedes  $0''.0$ , north  $0''.2$ .
146003. Classified Mb in H.A. 56, 138, but the spectrum is seen more clearly on photographs taken with the 8-inch than with the 13-inch Telescope.
146034. W Normae. Variable. Class III. Max. 9.5. Min. 10.3. Period, probably irregular.
146051.  $\delta$  Ophiuchi. Read 5.10 R, for 5.2.
146090. This star is C.D.M. —  $22^\circ 11430$ , and is not contained in the Southern Bonn Durchmusterung.
146143.  $\gamma^1$  Normae. The spectrum resembles that of  $\delta$  Canis Majoris, but the lines are not so narrow as in the latter spectrum.
146261. The star C.P.D. —  $57^\circ 7791$ , magn. 9.0, precedes  $1''.5$ , south  $2''.0$ . The spectrum is partly superposed and appears to be also of Class B8.
146323. S Normae. Variable. Class IV. Max. 6.6. Min. 7.6. Period,  $9^d.7525$ . The lines are narrow.
- 146361.2.  $\sigma$  Coronae Borealis. Bu. 7563, P.A.  $214^\circ.9$ , Dist.  $4''.59$ , combined magnitude 5.36. The lines are hazy but no separation is seen.
146376. When classifying this spectrum, the remark was made, "Lines double, two stars?" Chart plates show that a star slightly fainter than H.D. 146376, follows  $1''.5$ , south  $0''.3$ .
146415. SW Ophiuchi. Variable. Class V. Max. 9.3. Min. 10.0. Period,  $2^d.44578$ .
146417. N. G. C. 6093, Messier 80. The spectrum is hazy and resembles Class G5 in the distribution of light. Two variable stars have been found in this cluster.
146560. W Coronae Borealis. Variable. Class II. Max. 7.8. Min. 14. Period,  $244^d$ . On photographs taken May 8 and 24, 1905, the spectrum is of Class Mb, having the line H $\delta$  about twice as bright as H $\gamma$ .
146624.  $\delta$  Scorpii.
146667.  $\lambda$  Normae.
146686.  $\gamma^2$  Normae.
146723. The declination of this star in the Cordoba Durchmusterung is  $2'$  too far north.
146738.  $\nu$  Coronae Borealis.
146791.  $\epsilon$  Ophiuchi. In the distribution of light, this spectrum resembles that of  $\alpha$  Bootis.
146876. The star  $+1^\circ 3197$ , ptm. magn. 9.5, follows  $1''.2$ , south  $1''.0$ . The star  $+1^\circ 3198$ , ptm. magn. 9.5, follows  $1''.4$ , south  $1''.5$ . The image is very confused, due to the superposition of the three spectra. The spectrum of Class K appears to belong to the most northerly of the three stars, which is H.D. 146876.
- 146982.3. The spectrum is composite.
147049. The line K is strong for this class.
147084.  $\sigma$  Scorpii.
147088. — Normae. Variable. Max. 9.6. Min. 10.1. Period, irregular.
- 147103.4. Bu. 7579. P.A.  $21^\circ.6$ , Dist.  $12''.81$ , magn. 8 and  $8\frac{1}{2}$ .
147123. Numerous solar lines are seen which are too strong for Class A3. A spectrum of Class G is probably superposed.
147165.  $\sigma$  Scorpii.
- 147275.6. The spectrum is composite. Bu. 7587. P.A.  $244^\circ.9$ , Dist.  $0''.54$ , magns. 7.5 and 7.7. The spectrum of Class G, while fainter photographically than that of Class A5, may belong to the brighter visual component.
147331. The star C.P.D. —  $51^\circ 9454$ , magn. 9.0, follows  $6''.4$ , north  $0''.5$ . The spectrum is partly superposed and is of Class A.
147379. Parallax,  $0''.11$ .
147394.  $\tau$  Herculis. Read 0.10 R, for 0.2.
- 147438.9. The spectrum is composite.
147449.  $\sigma$  Serpentis.
147547.  $\gamma$  Herculis.
147552. N. G. C. 6121. Messier 4. Thirty-three variable stars have been found in this cluster.
147584.  $\zeta$  Trianguli Australis.
147603. X Normae. Variable. Class III. Max. 11.0. Min. <12.3. Period, irregular.
147640. The lines are broad.
147675.  $\gamma$  Apodis. Line  $4226.9$  is about 0.8 as strong as in the typical spectrum. Read 0.10 R, for 0.2.
147677.  $\xi$  Coronae Borealis. Read 0.10 R, for 0.2.
147700.  $\psi$  Ophiuchi.
- 147722.3. Bu. 7599. P.A.  $350^\circ.1$ , Dist.  $6''.25$ , combined magn. 5.46. The line H $\delta$  is double on photographs taken with the 13-inch Boyden Telescope, and other lines are hazy. Read 0.10 R, for 0.2.

147749. This star together with H. D. 147767 =  $\nu$  Coronae Borealis. Bu. 7608. P. A.  $165^{\circ}.0$ , Dist.  $366''.63$ , combined magnitude 4.56.
147767. See H. D. 147749.
147769. This star has been suspected to be variable.
147787.  $\epsilon$  Trianguli Australis.
147824. C. DM.  $-40^{\circ} 10392 =$  C.P.D.  $-40^{\circ} 7309$  magn. 9.6, and  $7310$ , magn. 9.2. The latter star follows  $1^{\circ}.0$ , north  $0'.1$ .
147869.  $\alpha$  Herculis. Line 4026.3 is stronger than normal for Class A0.
- 147878.9. H. D. 147878 precedes  $2^{\circ}.0$ , south  $0'.3$ .
147932. The spectrum may be of Class B8 or B9. The exact class is uncertain due to its superposition upon the spectra of H. D. 147933.4.
- 147933.4.  $\rho$  Ophiuchi. Innes  $16^h 40$ . P. A.  $354^{\circ}.2$ , Dist.  $3''.33$ . In Table I, last column, for reference, read 56, 93.
- 147947.8. The spectrum is composite.
- 147970.1.  $\epsilon$  Normae. Innes  $16^h 45$ . P. A.  $335^{\circ}.3$ , Dist.  $22''.8$ , combined magn. 4.71. Owing to the proximity of the brighter star, only the hydrogen lines H $\beta$ , H $\gamma$  and H $\delta$  are seen in the spectrum of H. D. 147970. Helium lines may also be present in its spectrum, which may be of Class B5 or B8.
148048.  $\eta$  Ursae Minoris.
148112.  $\omega$  Herculis. Numerous metallic lines are present but they are very faint. Lines 4077.9, K, and 4173.5 are about equal, but they have very small intensity compared with the hydrogen lines. Lines 4128.1 and 4131.1 are not certainly seen.
148136. N. G. C. 6139. No bright lines are seen.
148182. V Ophiuchi. Variable. Class II. Max. 7.0. Min. 10.5. Period, 302<sup>d</sup>.5.
148184.  $\chi$  Ophiuchi. The lines H $\beta$ , H $\gamma$ , H $\delta$  and He are bright and superposed on wide dark bands.
148206. U Herculis. Variable. Class II. Max. 6.4. Min. 12.0. Period, 403<sup>d</sup>. On a photograph taken April 24, 1914, the spectrum is of Class Mc, having the lines H $\gamma$ , H $\delta$  and H $\epsilon$  bright. The relative intensities are 10, 70, and 1, respectively.
148218. The lines H $\gamma$  and H $\delta$  are slightly stronger than normal. Classified G5 in H.A. 56, 138, but the spectrum is seen to better advantage on photographs taken with the 8-inch than with the 13-inch Telescope.
148321. The strontium lines 4077.9 and 4215.7 are strong. Read 2,10 R, for 2,R.
148367.  $\nu$  Ophiuchi. Read 2,10 R, for 2,R.
148379. The lines are narrow and their intensities resemble those in the spectrum of  $\zeta^1$  Scorpii, H. D. 152236, described in detail in H.A. 28, 177. No bright lines have been found in the spectrum of H. D. 148379.
148387.  $\eta$  Draconis.
148469. The lines appear to be broad.
- 148478.9.  $\alpha$  Scorpii. The spectrum is composite. See H.A. 28, 189, Remark 212. Bu. 7631. P. A.  $274^{\circ}.2$ , Dist.  $3''.18$ , magnitude of component, 7. Also a spectroscopic binary. It is uncertain whether the spectrum of Class A3 belongs to the visual or spectroscopic companion.
148515. Classified A5 in H.A. 56, 93, but the spectrum is seen to better advantage on photographs taken with the 8-inch than with the 11-inch Telescope.
148605.  $\iota$  Scorpii. The lines are wide.
148609. The lines are very wide.
148633. — Ophiuchi. Variable. Max. 9.5. Min. 10.2. Class and period unknown. Insert R in column 9 of Table I.
148687. N. G. C. 6153. Gaseous nebula. Variability was suspected on several spectrum plates, but could not be confirmed on chart photographs.
148688. The lines are narrow and their intensities resemble those in the spectrum of  $\zeta^1$  Scorpii, except that no bright lines are present. See H.A. 28, 177, Remark 43.
148703. N Scorpii.
148743. The lines are somewhat narrow and the metallic lines are strong for this class. The observation, F5, on B 40607, residual 10, was rejected.
148783.  $\gamma$  Herculis. Suspected of variability from magn. 4.7 to 6.0. The spectrum shows some peculiarities. The light of the continuous portion is nearly uniform. H $\gamma$  is somewhat stronger than normal for this class. Read 0,10 R, for 0,R.
148786.  $\phi$  Ophiuchi.
148808. Proper motion,  $1''.06$ ,  $317^{\circ}.1$ .
148816. Proper motion,  $1''.46$ ,  $197^{\circ}.9$ .
148827. Y Normae. Variable. Class V? Max. 8.8. Min. 10.0. Period, unknown. The class of spectrum suggests variability of the Algol type.
148856.  $\beta$  Herculis. The spectrum resembles that of  $\alpha$  Cassiopeiae in the distribution of light.
148857.  $\lambda$  Ophiuchi. Read 0,10 R, for 0,R.
148864. The star C. DM.  $-39^{\circ} 10470$ , ptm. magn. 11.0, precedes  $0^{\circ}.3$ , north  $1'.7$ . The superposition makes the spectrum of H. D. 148864 very hazy.
148890.  $\theta$  Trianguli Australis. Read 0,10 R, for 0,R.
148897.  $\delta$  Herculis.
148898.  $\omega$  Ophiuchi. Line 4077.9 is strong and the spectrum is somewhat peculiar. See H.A. 28, 187, Remark 167.
148915. The star C. DM.  $-29^{\circ} 12615$ , ptm. magn. 9.0, follows  $1^{\circ}.2$ , south  $1'.3$ . In H.A. 54, 177, the combined magnitude of the two stars is 8.82.
148972. The lines are narrow.
149038.  $\mu$  Normae. In the region of H $\delta$  this spectrum resembles those of Class Oe5. See H.A. 56, 155, Remark 189.
149121.  $n$  Herculis.
149161.  $h$  Herculis.
149212. A Draconis. The line K is strong and the spectrum resembles that of  $\beta$  Orionis, except that the lines are not so narrow as in that spectrum. Since only one photograph has been taken with the 11-inch Telescope, an exact study of the width of the lines could not be made.
149221. RU Trianguli Australis. Variable. Class II. Max. 9.8. Min.  $<13$ . Period, unknown. On a photograph taken July 22, 1908, the spectrum is of Class M having the line H $\delta$  3 times as bright as H $\gamma$ .
149234. X Arae. Variable. Class II. Max. 9.4. Min. 14.5. Period, unknown. On a photograph taken June 15, 1906, the spectrum is of Class Mb, having the line H $\delta$  5 times as bright as H $\gamma$ .

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- 149261.2. The lines are double. The class of each star is uncertain due to the superposition of the two spectra. Chart plates show two stars of nearly equal brightness, in the same approximate right ascension, and a difference of 0.4 in declination.
149324.  $\beta$  Apodis.
149427. Gaseous nebula. The object is C. DM. —55° 6825, magn. 10.2, and is not contained in the Cape Photographic Durchmusterung, nor in the New General Catalogue of Nebulae.
149431. UY Herculis. Variable. Max. 8.3. Min. 9.0. Class and period, unknown.
149438.  $\tau$  Scorpii. Line 4685.9 is nearly as intense as in Class Oe5. See H.A. 28, 176, Remark 22.
149447. H Scorpii.
149511. ST Scorpii. Variable. Class III. Max. 7.8. Min. 9.7. Period, irregular.
149554. Y Arae. Variable. Class II. Max. 9.1. Min. <12.8. Period, unknown. On photographs taken March 29 and April 1, 1908, the spectrum is of Class Mb, having H $\gamma$  and H $\delta$  bright and of equal intensity.
149630.  $\sigma$  Herculis. The lines are wide. Line 4026.3 is rather strong for this class.
149659. TZ Herculis. Variable. Max. 8.5. Min. 9.0. Class and period, unknown.
149661. This star is also S. D. —2° 4211, magn. 5.5.
149671.  $\eta^1$  Trianguli Australis.
149683. R Ursae Minoris. Variable. Class III. Max. 9.2. Min. 10.6. Period, irregular.
149702. The class is uncertain.
149730. R Arae. Variable. Class V. Max. 6.8. Min. 7.9. Period, 4<sup>d</sup>.425091.
149748. The lines are probably narrow. Lines 4077.9 and 4173.5 are strong.
149749. W Herculis. Variable. Class II. Max. 7.8. Min. 13.5. Period, 280<sup>d</sup>.2. On a photograph taken April 9, 1912, the spectrum is of Class Ma, having the line H $\delta$  3 times as bright as H $\gamma$ .
149757.  $\zeta$  Ophiuchi. The lines are very wide, and almost double.
149764. Lines 4128.1 and 4131.1 are strong.
149822. Lines 4128.1 and 4131.1 are strong.
149880. R Draconis. Variable. Class II. Max. 7.0. Min. 12.7. Period 245<sup>d</sup>.6. On a photograph taken April 20, 1912, the spectrum is of Class Mb, having the lines H $\gamma$  and H $\delta$  bright and of nearly equal intensity.
149920. The star C. DM. —38° 11094, ptm. magn. 9.9, follows 2°.2, north 3°.0. The spectrum is superposed and is probably also of Class K.
149922. The line H $\beta$  has the appearance of a bright edge on the side of greater wave length.
149990. Nova Arae. The spectrum was already that of a gaseous nebula when the Nova was discovered, on July 5, 1910, 92 days after its appearance on a chart photograph. The bright band, 4363, was the strongest. See Remark in H. A. 76, 37.
150024. — Arae. Variable. Class III. Max. 8.9. Min. 9.6. Period may be irregular.
150030. Line 4077.9 is strong.
150060. N. G. C. 6192.
150077. TX Draconis. Variable. Max. 7.2. Min. 8.0. Class and period, unknown.
150082. This star is C.P.D. —45° 8073, magn. 9.2, and is not contained in the Cordoba Durchmusterung.
150109. The lines appear to be broad.
- 150117.8. Bu. 7703. P. A. 111°.7, Dist. 3°.90, combined magnitude, 5.20.
- 150135.6. Innes 6<sup>a</sup> 61. A multiple star. Stars A and D are given in the Table. P. A. 266°.1, Dist. 9°.53, combined magnitude 5.59.
150168. The intensities of the lines resemble those in the spectrum of  $\theta$  Arae, described in H.A. 28, 177, Remark 39.
- 150230.1. The lines are broad and both spectra are probably similar. H. D. 150230 precedes 1°.3, and is in the same approximate declination as the following star.
150265. W Ursae Minoris. Variable. Class V. Max. 8.4. Min. 9.3. Period, 1<sup>d</sup>.7012.
150298. The class is very uncertain.
150373. Perhaps B8. The class is uncertain due to the partial superposition on the spectrum of H. D. 150374.
- 150378.9.  $\mu$  Herculis. Bu. 7711. P. A. 230°.0, Dist. 69°.51, combined magn. 5.40.
150383. AX Scorpii. Variable. Class III. Max. 8.8. Min. 9.8. Period, irregular.
150549. Lines 4128.1 and 4131.1 are very strong.
150671. The lines appear to be broad.
- 150673.4. H. D. 150673 precedes 0°.2, south 0°.2. The spectra are almost completely superposed.
150680.  $\zeta$  Herculis. Parallax, 0°.11. See H. A. 28, 97, Remark 94.
150708. — Draconis. Variable. Class IV. Max. 8.5. Min. 9.1. Period 3<sup>d</sup>.501. This is the southern component of the double star, Bu. 7729. P. A. 5°.0, Dist. 8°.25, magn. 7.7 and 8.8. See also H. C. 194.
150780. N. G. C. 6205. Méssier 13. The Great Cluster in Hercules. Ptm. magn. 7.17. Seven variable stars have been found in this cluster.
150798.  $\alpha$  Trianguli Australis.
- 150881.2. The spectrum is composite.
150898. Line 4116.4 is only about 0.7 as intense as in  $\epsilon$  Orionis. Read 0.10, for 0.2.
150958. The spectrum is slightly peculiar in having line 4638 brighter than 4686.
150965. The observation Go, on B 9606, residual 10, was rejected. The plate is poor.
150986. The spectrum has a wide absorption band at 4227, and resembles Class K5R, described on page 10.
150997.  $\eta$  Herculis. The hydrogen lines are stronger than normal for Class Ko.
151055. V Trianguli Australis. Variable. Class III. Max. 9.2. Min. 10.1. Period, irregular.
151101.  $g$  Draconis.
- 151115.6. H. D. 151115 follows 0°.8, north 0°.7.
151121. N.G.C. 6210. Planetary nebula. Ptm. magn. 8.53.
151187. S Draconis. Variable. Class III. Max. 7.5. Min. 9.3. Period, 300<sup>d</sup> or irregular.



151199. Line 4077.9 is nearly as intense as the line K. Read 0.10 R, for 0.2.
151204. UV Herculis. Variable. Class II. Max. 9.4. Min. <11.0. Period, unknown. On a photograph taken July 18, 1905, the spectrum is of Class Mc, having the line H $\delta$  very bright.
151217.  $\iota$  Herculis. Read 2.10 R, for 2.2.
151249.  $\eta$  Arae. Read 0.10 R, for 0.2.
151291. Near the edge of the second plate where the definition is poor.
151345. A slightly fainter star follows 1 $^{\circ}$ , south 0'.6. The spectrum is also of Class A.
151392. N. G. C. 6218. Messier 12. Globular cluster.
151523. The spectrum may be nearer to Class A than to F.
151525.  $\iota$  Herculis. Lines 4128.1 and 4131.1 are strong.
151592. RR Ophiuchi. Variable. Class II. Max. 8.0. Min. <12.0. Period, 298 $^d$ . On photographs taken June 27 and 28, 1894, the spectrum is of Class Ma, having the lines H $\gamma$  and H $\delta$  bright and of equal intensity.
151604. The hydrogen lines are narrow, and numerous well marked metallic lines are present. A trace of Fraunhofer's G band is seen. The spectrum is probably composite, having a fainter component of Class G.
151662. The lines appear to be broad.
151680.  $\epsilon$  Scorpii.
151695. This star is C. DM.  $-54^{\circ} 70'11$ , magn. 1.0, and is not contained in the Cape Photographic Durchmusterung.
151755. Two bright lines are seen to be superposed on this spectrum on Plate B 40441, taken June 17, 1909. They are in the correct position to be H $\gamma$  and H $\delta$  of the variable star — Scorpii, 16 $^h$  44 $^m$ .2 — 28 $^{\circ}$  1', whose observed range is from magn. 13.6 to 14.5. A chart plate taken near that date was not found to determine whether the variable star was bright at that time.
151771. Lines 4128.1 and 4131.1 are as strong as 4026.3.
151804. H $\beta$  has a bright edge on the side of greater wave length, and there are other peculiarities, as described in H.A. 28, 175, Remark 12.
- 151880.1. H. D. 151880 precedes 0'.6, north 0'.8. The exact class of each spectrum is not well defined, owing to the superposition.
151890.  $\mu^1$  Scorpii. A spectroscopic binary in which both stars are bright. The two spectra are alike and the lines are double in a period of 1 $^d$ .44627. See H.A. 28, 179, Remark 73, for a description of the spectra, and H.A. 84, No. 6, for a study of the orbit.
151895. The spectrum appears to be continuous except that H $\gamma$  and H $\delta$  are bright. The magnitude is about 12.5.
151896. Z Trianguli Australis. Variable. Class II. Max. 9.0. Min. 11.5. The spectrum is of Class Mb having H $\gamma$  and H $\delta$  equally bright.
151956.  $\kappa$  Herculis.
151985.  $\mu^2$  Scorpii. The lines are narrow.
151990. The line H $\beta$  is suspected to be bright.
152017. This star is C.P.D.  $-27^{\circ} 55'03$ , magn. 9.8, and is not contained in the Cordoba Durchmusterung.
152064. Z Arae. Class II. Max. 9.3. Min. 13.5. Period, unknown. On a photograph taken June 10, 1907, the spectrum is of Class Ma, having the lines H $\gamma$  and H $\delta$  equally bright.
152107. The line 4077.9 is very strong.
152161. In H.A. 56, 139, classified Ma. The class is more certainly defined on photographs taken with the 8-inch than with the 13-inch Telescope.
152233. The class is probably Bo. The fine lines are lost by the superposition of H. D. 152234, which precedes 1 $^{\circ}$ .5, south 1'.7.
152234. The line K is strong for this Class. Line 4649.3 appears to be slightly bright on the edge of greater wave length.
152236.  $\zeta^1$  Scorpii. The lines are narrow. H $\beta$  and H $\gamma$  are bright. See H.A. 28, 177, Remark 43.
152248. H. D. 152249 follows 1 $^{\circ}$ .5, south 2'.3.
152276. S Herculis. Variable. Class II. Max. 7.3. Min. 12.6. Period, 308 $^d$ .3. On photographs taken June 7 and 12, 1891, the spectrum is of Class Mc, having H $\gamma$  and H $\delta$  equally bright.
152308. Lines 4128.1 and 4131.1 are strong.
152334.  $\zeta^2$  Scorpii.
152391. Proper motion, 1 $^{\circ}$ .66, 206 $^{\circ}$ .1.
152404. AK Scorpii. Variable. Class IV? Max. 8.7. Min. 10.0. Period, unknown.
152408. The lines H $\beta$ , H $\gamma$  and H $\delta$  are bright on the edge of greater wave length. See H.A. 28, 176, Remark 13.
- 152457.8. The star which is the fainter by about 0.4 magn. follows 2 $^{\circ}$ , south 0'.2.
152476. RS Scorpii. Variable. Class II. Max. 6.5. Min. <12.0. Period, 323 $^d$ . On photographs taken September 19 and 22, 1892 and August 7, 1893, the spectrum is of Class Mb, having the lines H $\gamma$  and H $\delta$  bright and of nearly equal intensity. On photographs taken June 17 and 20, 1895, the line H $\delta$  is 4 times as bright as H $\gamma$ .
152478. The lines are very wide, and H $\beta$  is suspected to be partly reversed.
152493. The strontium line 4077.9 is very strong.
152539. SS Scorpii. Variable. Class III. Max. 7.5. Min. 9.5. Period, irregular.
152546. The star  $-57^{\circ} 8'17.8$ , C.P.D. magn. 9.6, precedes 5 $^{\circ}$ .0, north 5'.7. The spectrum is partly superposed and is of Class A.
152575. The star, C. DM.  $-32^{\circ} 12'53$ , ptm. magn. 10.5, follows 1 $^{\circ}$ .0, north 1'.0. The spectrum may also be of Class K5. The two stars appear to be nearly equal in brightness on chart photographs.
152588. SY Ophiuchi. Variable. Class III. Max. 8.4. Min. 9.6. Period, irregular.
152614.  $\iota$  Ophiuchi.
152627. This star is C. DM.  $-57^{\circ} 66'42$ , magn. 10, and is not contained in the Cape Photographic Durchmusterung.
152647. The star C. DM.  $-27^{\circ} 11'27.5$ , ptm. magn. 10.8, precedes 1 $^{\circ}$ .9, south 2'.5. The spectrum is partly superposed, and is of Class A.
152666. SZ Scorpii. Variable. Class II. Max. 9.0. Min. <13.5. Period, unknown.
152751. Parallax, 0 $^{\circ}$ .16. Proper motion, 1 $^{\circ}$ .27, 226 $^{\circ}$ .8. The lines H $\beta$  and H $\gamma$  are bright on photographs taken at Mt. Wilson. An examination of all the Harvard plates show-

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- ing this spectrum was therefore made, and H $\gamma$  is a faint emission line on a photograph taken August 3, 1908. The star is of very low luminosity. No variation in light was found on 28 chart plates taken between 1899 and 1919.
152783. RR Scorpii. Variable. Class II. Max. 7.0. Min. 12.1. Period, 281<sup>d</sup>. On a photograph taken August 12, 1893, the spectrum is of Class Mb, having the line H $\delta$  3 times as bright as H $\gamma$ . On a photograph taken June 19, 1908, the spectrum is of Class Mb, having the lines H $\gamma$  and H $\delta$  nearly equal in intensity, and also lines H $\epsilon$  and H $\zeta$  bright. H $\epsilon$  is rarely visible as a bright line in the spectra of Class Md.
152786.  $\zeta$  Arae.
152835. The star C. DM.  $-27^{\circ}$  11294, ptm. magn. 9.9, precedes 1<sup>h</sup>.8, south 0<sup>h</sup>.8. The spectrum is superposed and is of Class A.
152849. The lines are somewhat wide. This is due to the duplicity of the object. Bu. 7801. P. A. 275<sup>o</sup>.8, Dist. 0<sup>h</sup>.56, magn. 6.3 and 6.5.
152868. This is C.P.D.  $-23^{\circ}$  6429. The star C.P.D.  $-23^{\circ}$  6428, magn. 9.2, precedes 0<sup>h</sup>.5, north 0<sup>h</sup>.4. The spectrum is superposed and appears to be also of Class A.
152912. UU Ophiuchi. Variable. Class V. Max. 10.2. Min. <11.6. Period, unknown.
152913. The star C. DM.  $-26^{\circ}$  11707, ptm. magn. 11.0, follows 2<sup>h</sup>.4, south 3<sup>h</sup>.6. The spectrum is partly superposed and is of Class A.
152980.  $\epsilon$  Arae. Read 2,10 R, for 2, R.
152982. — Arae. Variable. Class III? Max. 9.2. Min. 10.0. Period perhaps irregular.
153004. RV Scorpii. Variable. Class IV. Max. 6.7. Min. 7.4. Period, 6<sup>h</sup>.0622. The spectrum is variable. It was estimated to be of Class F5 near maximum light, and G5 near minimum.
153020. N. G. C. 6254. No bright lines are seen. Five variable stars have been found in this cluster.
- 153038.9. H. D. 153339 follows 1<sup>h</sup>.0, south 0<sup>h</sup>.9. Both spectra are probably of Class G5.
153043. This star is C.P.D.  $-29^{\circ}$  4539, magn. 9.5, and is not contained in the Cordoba Durchmusterung.
153095. The observation, A2, on Mc 5404, residual 8, was rejected. The region of the line K is not well seen on that plate.
153167. SS Ophiuchi. Variable. Class II. Max. 8.1. Min. 12.0. Period, 230<sup>d</sup>. On a photograph taken June 22, 1895, the spectrum is of Class Ma, having the lines H $\gamma$  and H $\delta$  bright. The line H $\delta$  was estimated to be 0.8 as bright as H $\gamma$ .
153210.  $\kappa$  Ophiuchi. The spectrum resembles that of  $\alpha$  Cassiopeiae. Perhaps variable with a range of 0.4 magn.
153261. The line H $\delta$  is bright.
153286. The lines 4077.9, 4128.1, and 4131.1 are strong.
153417. The star  $-16^{\circ}$  4390, ptm. magn. 10.5, follows 5<sup>h</sup>.0, south 0<sup>h</sup>.5. The spectrum is partly superposed and is of Class A.
153432. T Arae. Variable. Class III. Max. 9.9. Min. 11.0. Period, irregular.
153516. N. G. C. 6266. Messier 62. Globular cluster. Twenty-six variable stars have been found in this cluster.
153530. The spectrum is probably composite. On a photograph taken with the 16-inch Metcalf Telescope, the strong hydrogen lines H $\gamma$  and H $\delta$  are present as in Class F.
153579. The star, C. DM.  $-49^{\circ}$  11132, ptm. magn. 11.0, follows 3<sup>h</sup>.0, south 0<sup>h</sup>.2. The photometric magnitude, 7.01, refers to the combined light of the two stars.
153580.  $\epsilon$  Arae. Read 0,10 R, for 0, R.
153583. The observation, A2, on M 5404, residual 8, was rejected. The region of the line K is not clearly seen on that plate.
153597. h-Draconis.
153655. I. C. 4634. Planetary nebula. Magn. 9.5 in the Southern Bonn Durchmusterung.
153727. The line H $\delta$  is strong for this class.
153751.  $\epsilon$  Ursae Minoris. Read 5,10 R, for 5, R.
153799. N. G. C. 6273. Messier 19. Globular cluster.
153808.  $\epsilon$  Herculis. Lines 4026.3 and 4471.6 are seen.
153853. This star is C.P.D.  $-28^{\circ}$  5508, magn. 9.3, and is not contained in the Cordoba Durchmusterung.
153858. RT Scorpii. Variable. Class II. Max. 9.2. Min. <12.9. Period, 444<sup>d</sup>. On a photograph taken August 22, 1892, the spectrum is of Class Mb, having the line H $\delta$  1.5 as bright as H $\gamma$ .
153865. The observation, F8, on I 37218, residual 12, was rejected. The spectrum is faint and indistinct on that plate.
153879. The line H $\delta$  is bright.
153882. The line K is very faint. Lines 4128.1 and 4131.1 are strong, also several at about 4173.
153919. The spectrum resembles that of  $\zeta$  Puppis more closely than does any other yet studied. See H.A. 56, 155, Remark 200.
154029. d Herculis.
154072. I. C. 4637. Gaseous nebula.
154090. k Scorpii. The lines are somewhat narrow and their intensities are similar to those in the spectrum of  $\zeta^1$  Scorpii, described in H.A. 28, 177, Remark 43. The hydrogen lines are not bright, however, as in the spectrum of  $\zeta^1$  Scorpii.
154198. The spectrum is partly superposed on that of H. D. 154178. On Plate B 20270, the class of spectrum was recorded F5. A re-examination of that plate shows that A5 must have been intended.
154204. The lines are hazy.
154219. The star C. DM.  $-37^{\circ}$  11264, ptm. magn. 11.0, follows 1<sup>h</sup>.4, north 5<sup>h</sup>.1. The spectrum is partly superposed and is of Class A.
154225. The spectrum is suspected to be composite. The band G and several solar lines appear too strong for Class A5.
154319. The line H $\delta$  is strong for this class.
154363. Proper motion, 1<sup>h</sup>.48, 218<sup>o</sup>.9. The low temperature lines are very strong.
154365. — Ophiuchi. Variable. Class IV. Max. 7.2. Min. 8.0. Period, unknown.

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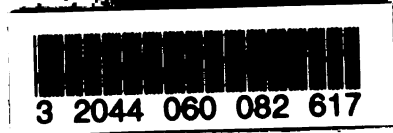




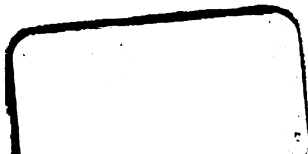




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